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XLV.—New Premises for Heal and Son, Tottenham Court Road, London, W. (Smith and Brewer, FF.R.I.B.A.), July 5.
XLVA.—Canadian Building, Panama-Pacific Exposition, San Francisco: Details of Trusses and Bracing, July 12.
XLVI.—New Zealand Government Building, Strand, W.C. (Crickmay and Sons), Aug. 9.
XLVII.—Saunderton Sanatorium (Manning Robertson), Aug. 9.
XLVIII.—Westminster Cathedral: View of Main Entrance Doorways and Mosaic (by R. Anning Bell), in Tympanum (J. F. Bentley), Aug. 23.
XLIX.—Golf Club House, Edgbaston, Birmingham (Buckland, Haywood and Farmer), Sept. 6.
L.—No. 129, Grosvenor Road, S.W.: The Stoa (G. and A. Gilbert Scott), Sept. 13.

CURRENT ARCHITECTURE (Series IV.)—

I.—Restoration of an Old House, Norwich (George J. Skipper), Sept. 20.
II. and III.—Concord House, Wandsworth, S.W. (William and Edward Hunt), Oct. 4.
IV. and V.—Louis Café, Duke Street, Cardiff (Ivor Jones and Percy Thomas), Nov. 1.
VI. and VII.—Business Premises, No. 27, Old Bond Street, W. (Trehearne and Norman), Nov. 15.
VIII.—New Premises for the Hartlepools Co-operative Society, West Hartlepool (L. G. Ekins), Nov. 22.
IX.—Imperial Hotel, Princetown, Devon (Richardson and Gill), Nov. 29.
X.—New Duchy Offices, Liskeard, Cornwall (Richardson and Gill, FF.R.I.B.A.), Dec. 13.

DETAILS OF CRAFTSMANSHIP (SERIES II.)—

XII.—Proposed New Clock for General Post Office, Dublin (J. Howard Pentland), July 19.
XIII.—A Hanging Lamp: Modern Florentine (Baccetti), Aug. 9.
XIV.—Detail of Main Entrance Door, Parma Cathedral (Luchino Bianchini), Aug. 16.
XV.—Cast of a Chaplet from the Frieze of the Monument of Thrasyllus at Athens, Sept. 27.
XVI.—Lead Grille over Radiator, King's College for Women, London, W. (H. Percy Adams and Charles Holden), Oct. 4.
XVII.—Chandelier in the St. James's Club, Piccadilly, London, Dec. 6.

DOORS AND DOORWAYS—

VI.—At Sibley House, Henrietta, New York, July 5.
VII.—At House at Valley Forge, Pennsylvania (Duhring, Okie, and Ziegler, Architects; Drawn by Walter McQuade), Aug. 9.
VIII.—Main Entrance Doorway, Public Library, Montclair, U.S.A. (Nelson and Van Wagenen), Oct. 11.
IX.—Doorway in Main Corridor, New York City Hall (Grosvenor Atterbury, John Tompkins, and Stowe Phelps), Oct. 18.
X.—Entrance Doors, No. 59, Cadogan Square, S.W. (William and Edward Hunt), Oct. 25.
XI.—Doorway in R.I.B.A. Council Room, 9, Conduit Street, W., Nov. 8.
XII.—Doorway to Main Gallery, Deshong Memorial Gallery, Chester, Pa. (Clarence W. Brazer and E. Donald Robb), Nov. 29.
XIII.—Entrance Doorway, Gargrave House, Yorkshire (James B. Dunn), Dec. 6.
XIV.—Penrose Almshouses, Barnstaple, 1627 (Measured and Drawn by Frederick G. Pain), Dec. 13.
XV.—Two Early Nineteenth-Century Doorways in Western New York.

ENGLISH INTERIORS—

VI.—The Drawing-Room, Welbeck Abbey (Ernest George and Yeates), Oct. 18.

LONDON FACADES—

XII.—The Royal Institute of British Architects, 9, Conduit Street, W. (James Wyatt), July 12.
XIII.—No. 65, Lincoln's Inn Fields, W.C. (Thomas Leverton), Sept. 6.
XIV.—The Soane Museum, Lincoln's Inn Fields (Sir John Soane), Sept. 20.

MEASURED DETAILS—

I.—Oak Staircase in House at Tunbridge Wells (Lifford Claydon), Nov. 8.
II.—Shop Front at Shrewsbury (Measured and Drawn by Frank H. Shayler and Edward R. Bill), Nov. 29.
III.—Capital and Bracket, etc., Shire Hall, Chelmsford (John Johnson), Dec. 6.

MODERN AMERICAN ARCHITECTURE (SERIES II.)—

II.—Premiated Designs for Architects' Certificates, New York State (Austin Whittlesey, Robert Patteson, Robert W. Hubel, Henry O. Milliken), July 1
III.—Carter Memorial Hospital, Lancaster, Mass. (Loring and Leland), Aug. 9.
IV.—The Children's Municipal Court, New York City (Crow, Lewis and Wickenhoefer), Aug. 16.
V. and VI.—New Buildings for the Massachusetts Institute of Technology, Cambridge, Mass. (William Welles Bosworth), Aug. 23.
VII. and VIII.—New Buildings for Massachusetts Institute of Technology, Cambridge, Mass. (William Welles Bosworth), Sept. 6.
IX. and X.—New Buildings for Massachusetts Institute of Technology, Cambridge, Mass. (William Welles Bosworth), Sept. 13.
XI. and XII.—Massachusetts Institute of Technology: Corner Pavilion (William Welles Bosworth), Sept. 20.
XIII.-XVI.—Public Library, Waltham, Mass. (Loring and Leland), Oct. 11.
XVII.—Screen in Corridor, City Hall, New York (Grosvenor Atterbury), Oct. 18.
XVIII. and XIX.—Competition for Memorial Building, Newark, N.J. (McKim, Mead, and White; Cass Gilbert), Nov. 1.
XX.—Deshong Memorial Gallery, Chester, Pa. (Clarence W. Brazer and E. Donald Robb), Nov. 29.
XXI. and XXII.—United States Post Office and Court House, Denver, Colorado (Tracy, Swartwout, and Litchfield), Dec. 13.

MODERN DOMESTIC ARCHITECTURE (SERIES II.)—

XXXVII.-XXXIX.—No. 8, Buckingham Street, London, S.W. (Professor C. H. Reilly), Aug. 2.
XL.—New Terrace and Steps, "Hazelwood," Silverdale (E. Prentice Mawson), Aug. 30.
XLI.—Garden Court, Walhampton, near Lymington, Devon (E. Prentice Mawson), Sept. 27.
XLII.—Dining-Room, Kensington Palace Gardens, W. (E. J. May), Sept. 27.
XLIII.—Conversion of Stable Building into a House at Wimbledon (Arthur Stratton), Oct. 4.
XLIV.—The Dining-Room, "Hazelwood," Silverdale (E. Prentice Mawson), Nov. 15.
XLV.—Hest Bank, near Lancaster (E. Prentice Mawson), Dec. 20.

MODERN SHOP FRONTS (SERIES II.)—

I.—Two Shops at Cork (Chillingworth and Levie), Oct. 25.
II.—No. 27, Old Bond Street, London, W. (Trehearne and Norman), Nov. 15.

MONUMENTAL ARCHITECTURE (SERIES I.)—

L.—Transfer Office, Bank of England, London (Sir Robert Taylor), Nov. 15.

MONUMENTAL ARCHITECTURE (SERIES II.)—

I.—Gorhambury House, Hertfordshire (Sir Robert Taylor), Nov. 22.
II.—The Bourse, Petrograd (Thomas de Thomon), Dec. 6.
III.—Entrance Gateway, Wilton House, Salisbury (Sir William Chambers), Dec. 13.

MONUMENTS—

XX.—Sketch Model of Monument to Members of the Staff of the London County Council Who Fell in the War: Placed First in the Civic Arts Association Competition, Class I. (E. A. Rickards, F.R.I.B.A., and Henry Poole, R.B.S.), July 26.
XXI.—Plaster Model of Bronze Wall Tablet Placed First in the Civic Arts Association Competition, Class II. (Eric Bradbury), July 26.
XXII.—Design for Bronze Wall Tablet, Placed Second in the Civic Arts Association Competition, Class II. (H. P. Gill and R. F. Wilson), July 26.
XXIII.—Design for a Memorial Fountain in a Country Town, Placed First in the Civic Arts Association Competition, Class VII. (Cyril A. Farey), July 26.
XXIV.—Monument to Engine-Room Heroes, Pierhead, Liverpool (Sir W. Goscombe John, R.A.), Aug. 2.
XXV.—Monument to Queen Anne, Queen Anne's Gate, Westminster, Aug. 16.

SCIENCE AND TECHNICAL BUILDINGS—

I.-III.—Science Buildings, King's College School, Wimbledon Common, London, S.W. (Arthur Stratton), July 5.
IV. and V.—Physiology Laboratory, King's College for Women, Campden Hill, London, W. (H. Percy Adams and Charles Holden), July 12.
VI.—Teaching Kitchen, King's College for Women, Campden Hill, London, W.: Details of Centre Benches (H. Percy Adams and Charles Holden), July 19.
VII.—Fittings in Chemistry Laboratory, King's College for Women, Campden Hill, W. (H. Percy Adams and Charles Holden), July 26.
VIII.—Chemistry Laboratory, King's College for Women, Campden Hill, London, W. (H. Percy Adams and Charles Holden), Aug. 2.
IX.—Carpentry and Joinery Workshop, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Aug. 16.
X. and XI.—Science School, Leighton Park School (Fred. Rowntree and Son and Ralph W. Thorp), Sept. 13.
XII.—Junior Chemistry Laboratory, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Sept. 6.
XIII.—Electrical Engineering Laboratory and Bakery, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Sept. 20.
XIV.—Painting and Decorating Room and Plumbing and Gasfitting Workshop, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Sept. 27.
XV.—Physics Lecture Room and Preparation Room, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Oct. 4.
XVI.—Senior Chemistry Laboratory, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Oct. 18.
XVII.—Chemistry Lecture Room, Cardiff Technical Institute (Ivor Jones and Percy Thomas), Oct. 25.
XVIII. and XIX.—South Wales and Monmouthshire School of Mines, Treforest (Teather and Wilson), Nov. 8.
XX.—Miners' Rescue Station, Rhondda Valleys (Teather and Wilson), Nov. 22.

SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.)—

XXXVIII.—House in High Street, Marlow; House at Star Cross, Devonshire, July 12.
XXXIX.—House at Truro, Aug. 30.
XL.—Two Houses at Blackheath, S.E., Nov. 29.
XLI.—House at Thaxted, Essex; House at Horsham, Surrey, Dec. 20.

STUDENTS' DRAWINGS (SERIES II.)—

XXVIII.—Williams Deacon's Bank, Manchester (Measured and Drawn by Gordon Hemm), July 19.
XXIX.—The Art Gallery, Manchester (Sir Charles Barry, Architect; Measured and Drawn by Gordon Hemm), Aug. 16.
XXX.—The Art Gallery, Manchester: Side Elevation (Measured and drawn by Gordon Hemm), Aug. 23.
XXXI.—Prize Designs for Replanning Central Area of Birkenhead (S. C. Foulkes and Gordon Hemm), Aug. 30.
XXXII.—A Roll of Honour (Tullio Medina) and a Town Church (F. Jenkins), Aug. 30.
XXXIII.—The Art Gallery, Manchester: Main Entrance (Sir Charles Barry, Architect; Measured and Drawn by Gordon Hemm), Sept. 27.
XXXIV.—Design for a Roll of Honour (Michael R. Kelly), Oct. 18.
XXXV.—The Art Gallery, Manchester (Sir Charles Barry, Architect; Measured and Drawn by Gordon Hemm), Oct. 25.
XXXVI.—Design for Commemorative Column (Arnold P. Hodges), Nov. 8.
XXXVII.—Design for a Seaside Cottage (V. J. Wenning), Nov. 15.
XXXVIII.—Italian Renaissance Composition (W. B. Wigglesworth), Nov. 22.
XXXIX.—Design for a Chimneypiece in a Reception Room (Lifford Claydon), Dec. 6.
XL.—Design for a Façade for a Firm of Fine Art Publishers (F. P. M. Woodhouse), Dec. 20.

WORKING DRAWINGS, ARCHITECTS' (SERIES II.)—

XXIX.—Turret on Farm Buildings, Whiteford Manor Farm, Cornwall (Richardson and Gill), July 19.
XXX.—New Buildings for the Massachusetts Institute of Technology, Cambridge, Mass.: Elevation of Main Portico, Entrance, and Dome (William Welles Bosworth), Aug. 23.
XXXI.—New Building for Massachusetts Institute of Technology, Cambridge, Mass.: Details of Main Portico and Entrance (William Welles Bosworth), Aug. 30.
XXXII.—Louis Café, Cardiff (Ivor Jones and Percy Thomas), Nov. 1.
XXXIII.—Farmhouse at Bellever, Devon (Richardson and Gill), Nov. 22.
Construction of Intersecting or Groined Vaults (James S. Boyd), Oct. 25.
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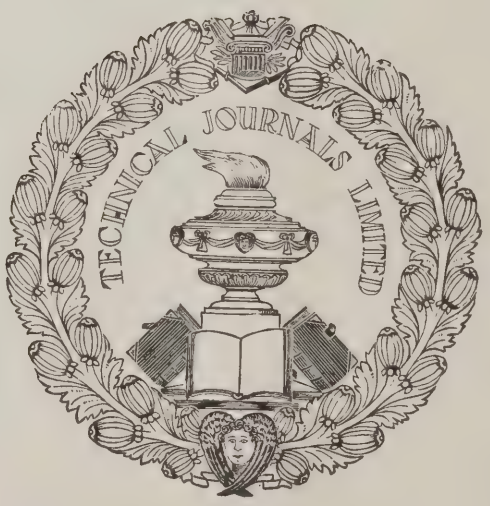
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EDITORIAL.

IN the address in which he acknowledged the award to him of the Royal Gold Medal, Sir Rowand Anderson dwelt, with pardonable pride, on the work and influence of Scottish architects who have practised mainly in England; but since we in the South are already well acquainted with the achievements of Gibbs, the Milnes, the brothers Adam, Norman Shaw, and James Brydon (he does not mention Chambers), it would have been more interesting if he had sketched for us the progress and present position of architecture in Scotland, a subject upon which, on this side of the Tweed, information is sadly to seek. That much excellent work is being done in Scotland we are very well aware, but we hear too little about it, and should have been glad if Sir Rowand had taken this opportunity to lighten our darkness. Upon the cognate subject of architectural education he spoke more freely. As his services in this cause were expressly mentioned in recommending that the Royal Gold Medal should be awarded to him, his reference to them was very appropriate, and was the more apt because of the keenness with which, in view of national emergencies, the whole field of education is, at the moment, being scanned.

* * * *

It is useful and suggestive to learn, through Sir Rowand, that as long ago as 1894 he and a number of other architects obtained the aid of the Board of Manufactures and started an art school "free from the baneful influence of South Kensington." It would appear that the poisonous growth called "payment by results" was then at its rankest, and was defiling all education. "A school," as Sir Rowand tersely says, "existed more for the benefit of the teacher than of the taught." This was how not to do it, with a vengeance; and Sir Rowand rather went to the opposite extreme in assuming the position of unpaid director of the scheme of which he was pioneer. He has his reward not chiefly in the honour that has been done him by the R.I.B.A. partly in the name of education, nor mainly in the grateful regard of those who have benefited by his self-sacrifice, but principally in the satisfaction he must feel at the continuous success of the scheme; and this guerdon is another and a wholly innocuous form of "payment by results."

* * * *

Yet it is the very success of such isolated schemes that has caused postponement of the co-ordination, co-operation, and fruitful conference, which we believe to be essential to national economy and to consequent progress and development in education. At present there is too much isolated effort, and there are too many blind alleys. In architectural education there are many welcome evidences that the need for organisation upon a generalised system is clearly perceived, and all the observable tendencies are groping, if not exactly marching, towards this goal. But there must be more broad avenues, and a more imposing centre. Education wants town-planning in the grand manner. We would even go so far as to say that the evening-schools should be linked up to the universities, and that educational effort must not be restricted for want of funds, which should be available from some sort of central treasury—Government, municipal, or private. School endowments should be again overhauled with a view to their more direct application to the furtherance of national efficiency. Financial administration should not be entrusted to the control of perfunctory permanent officials, but to a Board comprising genuine educationists closely in touch with the schools and universities, and really representing them. It is quite possible that the funds already allocated for education would prove sufficient for all purposes, without making demands upon the national exchequer, but legislation would be necessary for their more useful and more rational distribution. Accident has made some educational agencies plethorically rich, while others are miserably poor, and mere common sense suggests an equitable readjustment. In the national interest, accident must give place to system.

* * * *

In England (but not in Scotland) education is not only greatly undervalued, but is regarded too generally with distrust and contempt. Its opponents fortify themselves with such catchwords as "You cannot teach art," and they have said roundly that architectural education is a mistake. Architecture cannot be taught; it is a matter of intuition; at least, that is the net impression these obscurantists convey, although they dare not say it outright. Others, halting between two opinions, express the fear that education tends to destroy originality, and to deaden the artistic soul. Such transparently absurd contentions need no refutation. Like certain low forms of marine life, they explode immediately on coming to the surface. But such views are surprisingly prevalent, and are symptomatic of the mental lethargy and obfuscation from which this country needs a vigorous rousing. Mr. Ashbee, if we recollect rightly, wrote a book in answer to the question, "Can Art be Taught?" and we believe that the reply was in the affirmative. At any rate, your untutored genius does not figure very prominently in art—with the doubtful exception of the pavement artist, to whom, as an illustration of their theory, the opponents of education are very welcome.

* * * *

Those who would have us believe that Mediæval architecture was mainly the spontaneous product of unschooled craftsmen simply trade on the lack of definite information as to the training of the workers and of the master-mason who in due time became known as the architect—trade also on the love of paradox which welcomes such assertions as that education does not educate; that the less a man learns, the

greater is his knowledge; that muddle and accident are really more effectual than system and training. On the last-cited absurdity, that education kills art, Dr. Robert Bridges, the Poet-Laureate, had a word to say in his speech at the conference on "The Neglect of Science." "The artist," he said, "is the most self-willed of God's creatures, and his art will not be killed in him by an earlier or deeper acquaintance with the laws of nature. He will rather become a more influential apostle."

* * * *

If a poet denies that natural science is inimical to art, we may with the better grace hold that architectural training is not necessarily lethal to architecture. Dr. R. W. Macan, the Master of University College, Oxford (at which University, by the way, they have suddenly developed an almost feverish interest in science), speaking at the same conference, expressed his belief that the men of science at the present day, and those who are demanding an extension of scientific education in this country, are working in the true interests of Hellenism, and in the spirit of ancient Greece; for the ancient Greeks were the fathers of modern science. This, of course, will merely confirm the reactionaries in their hatred of Hellenism; but, on the other hand, it signalises that reunion of art and intellect which the emotionalists, from Pugin to March Phillipps, affect to regard as pagan impossibility. But the Goths must find the present situation rather embarrassing. In this conflict between science and the humanities, between abstract and concrete knowledge, whence do the humanists get their cherished means of moulding the mind? From the Classics, as they almost passionately proclaim! To the soulless and coldly intellectual Greeks and Romans they must needs repair for their emotional and spiritual values! Moreover, Dr. R. W. Macan, like Dr. Harrower, insists, in effect, that the ancient Greeks were about the most pious people that ever lived: else why those numerous and beautiful temples? But in their architecture they expressed their piety with grace, dignity, and restraint, artistically avoiding all temptation to excess.

* * * *

In Glasgow, as elsewhere, the housing problem has become acute, and Mr. McKinnon Wood, the Secretary for Scotland, in receiving a deputation from the Glasgow Labour Party Housing Association, held out no hope that the Government would grant the loan of a million sterling "for the first year, decreasing annually thereafter in ratio to the increasing revenue of the property," for which the deputation asked. Yet he admitted that, "as a whole, the state of affairs was extremely unsatisfactory," and that "something would have to be done seriously and earnestly to deal with a situation which was prejudicial to the health of the community and damaging to its moral standard." To perceive thus clearly and to state thus cogently the vital importance and the extreme urgency of the problem, and at the same time to discourage the hope that the State would give any very substantial help towards its solution, is not inconsistent either with official traditions or with war-time exigencies, and Mr. McKinnon Wood's pessimism has this twofold excuse, as well as the further explanation of it that it is characteristic of his habitual caution and reserve. He is one of those rare statesmen who perform more than they promise, and we feel confident that he will use to the uttermost his powerful influence in urging the Government to give "serious and earnest attention" to this supremely important matter of housing. Loans granted throughout the Kingdom on the same scale as that demanded for Glasgow would, according to Mr. Wood's computation, amount in the aggregate to fifty million pounds. Formidable as this sum is as a matter of finance, it is, as an expression of the need for housing, simply appalling, and the latter is the view upon which most stress should be laid.

It appears that the Prime Minister has declined to receive a deputation of builders who wished to represent to him the hardships imposed upon the industry with respect to pre-war contracts. With his plea of heavy engagements we are bound to be in full sympathy; but the statement that "building contracts did not appear to him to be distinguishable from the innumerable other contracts the exact fulfilment of which has been rendered difficult owing to the war" can only be excused upon the same grounds, if at all. He agreed, however, to receive a written representation on the subject, and this has been sent to him. This document shows how sub-contracts for supplies have suffered owing to Government control of the works of manufacturing firms, contractors having been forced into additional expense in buying again after delays consequent on finding fresh sources of supply. It was urged that the Government might extend the operations of the Emergency Courts so as to include consideration of pre-war building contracts, with power to grant such relief as the circumstances seem to require; or that, alternatively, the Government should pay contractors for its own work the average difference in cost of labour and materials between market prices at the respective dates of letting and of finishing a contract. Also it was suggested that the Government should remove any difficulties that prevent municipalities from making similar equitable arrangements. To these surely very reasonable suggestions no reply has been as yet received. For the moment, therefore, further comment would be premature.

* * * *

Further correspondence on the Charing Cross Bridge scheme has been sufficiently copious, but has produced hardly any fact, argument, or opinion with which we were not already familiar. Mr. E. L. Lutyens, however, in deploring the loss of a great opportunity when the new County Hall and the new Waterloo Station were not designed together as part of a large development scheme for this area, supports the idea of a war-memorial bridge, which, he suggests, would give space and dignified positions for memorials to and statues of our great soldiers and sailors and others who have promoted the interests of the Empire. Pylons could be erected to the memory of outstanding men like Roberts and Kitchener, and the great "Place" before the new station might be adorned by memorials and statues in relation to the bridge and its approaches under a general and controlled scheme. Mr. G. A. T. Middleton's proposal for the formation of a joint committee comprising the railway company, the London County Council, and the City Corporation for the development of a scheme is apparently not intentionally ironical; but when these three elements combine amicably for the advancement of "tidiness" (Professor Lethaby's bland euphemism for the horrific word æsthetics), then shall the lion lie down with the lamb, and the sucking dove coo its blessing on their amity.

* * * *

Mr. Herbert A. Welch, whose letter follows immediately upon that of Mr. Middleton, concludes it with: "At all costs, the proposals to strengthen the present unsightly and inadequate structure must be avoided. Away with it, and give London something worthy of herself!" A horrible suspicion crosses the mind that the "red-oxide Behemoth" fulfils that condition. London got the bridge she deserved when it was built; and she has in many other instances done much to justify the charge that she is, or was, a parochial-minded, slovenly, and somnolent slattern, leaving her affairs too much in the hands of insolent servants, and altogether setting a most shocking example of domestic mismanagement to her daughters of the Colonies. That is the main point—that as the civic head of a great Empire it is her duty to take more pride in her personal appearance. She should at least be "tidy."

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HERE AND THERE.

BETWEEN the American and French peoples a mutual esteem has long existed. "Good Americans, when they die, go to Paris"; and American architects in particular have evinced a strong affection for French art and that Ecole on which they have founded their own system of architectural education. The American in France has been a very welcome visitor, as much for the generous manner of his spending as for the equally generous manner of his appreciation of the French genius. It is, therefore, not at all surprising to find a distinguished American architect, Mr. Whitney Warren, given facilities for surveying the havoc wrought by the Germans on French soil, and invited by the authorities to secure a photographic record of the ruins of fine buildings upon which the German fury has spent itself: it being no doubt understood that the neutral observer would take advantage of the facilities afforded and place on record for the attention of the outside world a series of facts and impressions that would make plain what "frightfulness," as the Germans understand it, really means. We, too, have had our observers and correspondents in France, and there is now little to say or to show about Reims and Arras and other places in the War zone which we are not already familiar with. But there are numberless districts and places not coming within the general ken, but enshrining, nevertheless, many a noble example of ancient building, which equally have felt the awful blast of shell-fire, and now present a pitiful spectacle. It is of these especially that Mr. Whitney Warren tells us in an article in the American "Architectural Review." Vassincourt, for example, has but one house standing in all the village. At another French village, Heilz-le-Maurupt, a beautiful old Romanesque church has been criminally assaulted, sacked, and uselessly wrecked, while but twenty-five houses remain in what was formerly a peaceful community of a hundred and fifty homes. At Laimont, in the Department of the Meuse, out of a hundred and sixty-eight houses, seventy-six have been burned and the remainder damaged; at Sommeilles a hundred and nineteen of the original hundred and twenty-five have been destroyed. And so the record proceeds—a record of destruction perpetrated in sheer wantonness, as awful in France as in Belgium and everywhere else where the Germans have had the chance of committing crime under the veil of "military necessity."

* * * *

Here is Mr. Warren's final estimate of the whole dastardly affair: "If the war in Europe has accomplished nothing else," he says, "it will have performed an important service in correcting previous existing misconceptions as to the national characteristics of Continental peoples." (Incidentally, I may interpolate, it has shown that the British are serious only over the things that don't matter: when it comes to the most serious business of all, the business of War, we find the British soldier surprising the whole world by his light-heartedness, working and fighting like a Trojan, but seeing the merry side of life even in a shell-swept trench.) "The homely stolid German has proved to be the degenerate of Europe—as moral degeneracy alone explains the disregard of national and individual ideals of honour, the sordid grimness of acts of pillage, rapine and destruction to which the countries over which they have passed have been subjected. From a nation of scientists striving to better civilisation they appear to have perverted all their knowledge and information to its ruthless and utter destruction. In this hideous alchemy all sentiment and regard on their part for those artistic elements remaining from previous civilisations have vanished as bubbles blown into thin air." And now Mr. Warren comes to the crucial point: "It was perhaps to be expected from Germany, a country whose sense of taste or art appreciation has remained so crude, so elementary, and so inexpert; where strength has been developed at the expense of delicacy, and the vulgar appeals of the Baroque and Rococo preferred to the subtler refinements of classical art. From a nation so stunted in full development such a martyrdom of mutilated cities, a decapitation of cathedrals, and assassination of architecture should perhaps have come as no surprise. . . . A certain amount of this destruction is, of course, unescapable; and it has, in times past, even been a recognised custom of war to follow this necessary destruction by further acts of spoliation of products of art and beauty from a conquered or semi-conquered people. Hardly ever before, however, even in remote and so-called barbaric times, has there been so much evidence of a wild and savage spirit of destruction, comparable only to the 'Berserk' rage, as has animated the German armies in their desecration of portions of France and Belgium."

* * * *

Mr. Warren is not a whit too strong in his denunciation. The Germans have proclaimed themselves, by their acts in this War, a barbarous people and a dishonourable enemy. After the War we are to have an active policy of excluding this race from any share in our own affairs, and this policy of exclusion may well be extended to architecture. One is not insensible to the excellent system of organisation that has made the Germans the efficient national machine which confronts us to-day, and no one who is not wilfully purblind will fail to recognise the merit of their achievements in spacious civic lay-outs, in railway stations of worthy magnitude, and business premises on such a splendid scale as those of Wertheim and Tietz, shops that possess the interior effects of cathedrals. But let there be an end to the idea in the minds of some people that there is anything in the *art* of architecture which we can learn from the Germans. The modern Germans we are familiar with have always taken their architecture from some other nation, chiefly from the French, and everything they have touched they have coarsened and spoiled. Turn, for example, to public monuments. If you go back to the time of Schinkel and Von Klenze you will find architecture in Germany imbued with the same classical qualities of refinement and scholarly design which found expression in this country in the works of such men as Decimus Burton and Cockerell. Scharnhorst then could be set on a fine pedestal, a strong graceful eagle below him. Later came a sugary school of artists, when the monuments were tame and insipid. And lastly, with United Germany, the terrible modern school which proclaims in architecture the frightful creed of Nietzsche and Bernhardi. It may be called virile and masculine and strongly individual by those who have a kink in that direction, but, in truth, it is the most brutal stuff that any civilised nation has ever conceived. Those monstrous Bismarcks on cyclopean masses of stone, that nightmare travesty of Visconti's Tomb of Napoleon in the Völkerschlachtdenkmal at Leipzig, those Kaiser monuments that simply astonish the senses by their crudity, and, most recent of all, that wooden effigy of Hindenburg into which an admiring nation might drive so many thousands of war-gift nails: these are what modern German architects and sculptors can show us. And the mere sight of such works is enough to convince us that an evil energy is at work in them.

UBIQUE.

A PANEL BY TIJOU.

THE illustration below shows a remarkable panel wrought in iron by Jean Tijou, the French craftsman who came to this country at the end of the seventeenth century and created, under Wren, a new school of ironwork in England. A number of these panels were discovered some years ago in St. Paul's Cathedral, and were incorporated by Mr. Somers Clark (then Surveyor to the Fabric) in the backs of the stalls which were erected from his design in the newly-formed chapel of St. Michael and St. George. The panels measure about 18 in. square.

"The novelty and distinctive character of Tijou's work" (to quote Mr. Starkie Gardner) "lies in the use of embossed acanthus leaves, rosettes, masks, garlands, crowns, and other insignia, which are sometimes in such profusion as almost to conceal the forgings. No such work had previously been seen in England, nor any such rich effects. The style he adopted was based on, but unlike, the French, and he is classed as an English *maître ornamentiste* by Guilmard. His book of designs makes it clear that he was not a practical smith, but he was certainly a very practical and most artistic embosser, giving this work expression and character never attained by any other ironworker. . . . When Tijou was at his zenith he must have needed many assistants, and several of these I am able to trace. One, a working man, in 1707, having successfully completed, after three years' work, a garden house at Melbourne, in Derbyshire, set up a forge in Derby, and carried on an extensive trade for many years there and in the neighbouring counties. Two brothers set up in Chester, apparently eight years after Tijou's departure [he retired abroad, leaving his wife a power of attorney to collect a balance due on the St. Paul's work, which was paid in 1712: the tradition extant in his family, members of which still survive, is that he died broken-hearted, leaving two sons], and executed almost all the fine work seen in that and the adjacent counties. Another was working in Bristol in 1710, and obtained great patronage all over that part of England and Wales. The work of each is perfectly distinctive, and easily recognised, but all agree in making a lavish use of acanthus and rosettes, in the manner of Tijou, though all equally fail when aspiring to higher flights, such as masks."



WROUGHT-IRON PANEL BY TIJOU IN THE CHAPEL OF ST. MICHAEL AND ST. GEORGE, ST. PAUL'S CATHEDRAL, LONDON.

THE PLATES.

Science Building, King's College School, Wimbledon Common.

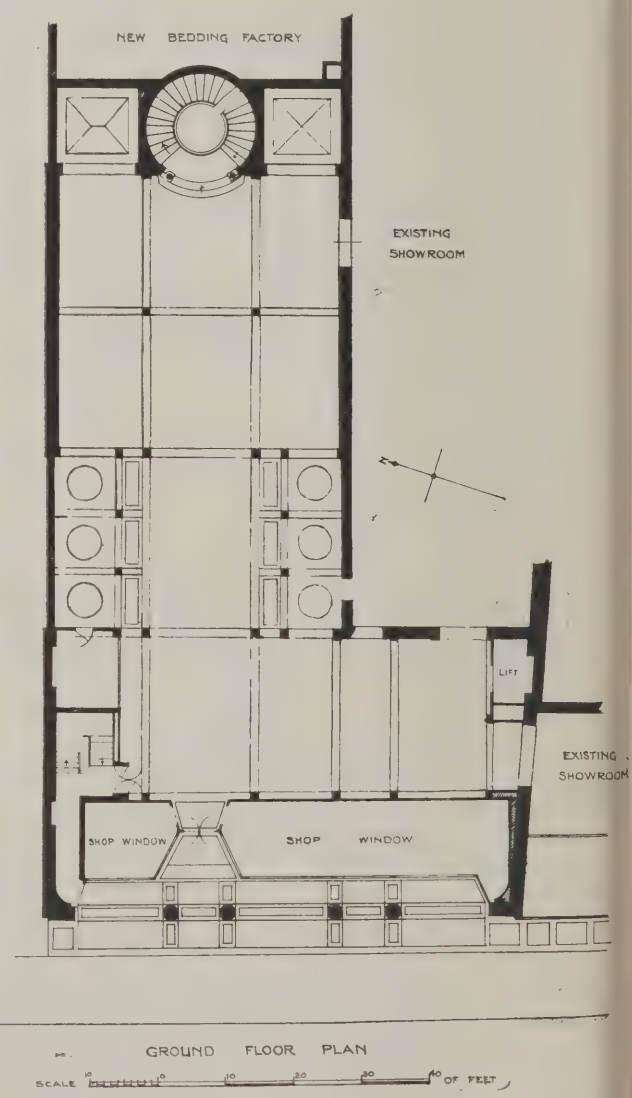
THIS is an admirable example of a physics and chemistry building in connection with a large boys' school. It stands by itself in the grounds of the School, and claims attention by the architectural quality which the architect, Mr. Arthur Stratton, F.R.I.B.A., has given to the exterior, and by the excellent arrangement and equipment of the interior. The walling is of multi-coloured facing bricks, with bright red quoins and window arches; the doorways and the cornice, which is continuous around the building, being of Portland stone, and the roof covered with sand-faced tiles. It is a straightforward piece of brick building, and the two outside staircases are happily conceived and effectively placed. They lead up to the two laboratories on the principal floor (the lower floor is occupied by a workshop, boys' changing-room, stores, etc.). The physics laboratory is shown on our plate, and in connection with it we would draw attention to a special aim of those concerned in its design—namely, that this should be both a lecture and a demonstration room, for which reason the benches are arranged and fitted so that the boys all face one way, towards the physics master's lecture bench. The arrangement of the chemistry laboratory is similar. The benches have $1\frac{3}{4}$-in. oiled teak tops, and the sinks provided at regular intervals are, it will be noted, round sinks, which can be cleaned with a minimum of labour. Glazed channels with acid-proof joints, laid to falls in the thickness of the floor and accessible for cleaning, carry the wastes to two outlets in each laboratory, as shown by the dotted lines on the plan. The gun-metal swan-neck water-taps are fitted to receive rubber tubing, and at the base of each are two smaller taps for condenser and other work. The drawers in the lecture benches and the cupboards and shelving around the walls provide for systematic storage of apparatus and material. The fume cupboards have a sliding sash in front, an acid-resisting stone base, and a slate plinth against the wall; the fumes are drawn off by an electric blower in the roof, and discharged through a louvred dormer, as seen in the sections on the plate. The floors are of reinforced concrete laid with wood blocks, except in the lobbies, where they are of Durazzo, with sinkings for door mats. Adjacent to the physics laboratory are a preparation room (equipped with a Fletcher heater for hot water) and a photographic dark-room, and adjacent to the chemistry laboratory are a preparation room and a balance room, the latter having a thick stone bench supported so as to protect the more delicate balances from vibration. Each laboratory accommodates thirty boys. Lighting is by electricity, and the switches are arranged so that the lights can be turned out simultaneously from the lecture bench, thus saving time and trouble when the laboratory is desired to be darkened for lantern work; curtains are fitted to the inside of the window reveals, and thus enable light to be excluded while admitting abundance of fresh air. For experiments in photometry, electrolysis, and various other branches of science, current is laid on to every bench in the physics laboratory. Altogether the laboratories show a most careful study of requirements and an attention to details which, in practice, leads to the most satisfactory results. The general contractors for the building, which was opened in the spring of 1914, were Messrs. William Moss and Sons, Ltd., of Loughborough and London, who also carried out the reinforced concrete floors on their system.

A Colonial Doorway.

The town of Henrietta, in Western New York, possesses many examples of the Colonial work which belongs to the period 1800-1840, towards the end of which the influence of the Greek Revival is noticeable. The doorway illustrated is a typical example of the earlier work. It is evident that the builders gave considerable thought to the execution of these old doorways, which, though the mouldings are sometimes crude, never fail to arouse our interest and admiration. In general appearance many of them are quite similar, and at first glance seem like many others we have seen before, but upon examination they prove to be different in detail. The fanlights are always a striking feature. Very few of them in this locality were fashioned entirely of lead; instead, they were made of straight or bent wooden bars about 5-16 in. thick, radiating from a lead ornament, smaller lead ornaments, painted or gilded, being tacked at the intersection of the bars.

New Building for Messrs. Heal and Son.

The enlargement of Messrs. Heal and Son's premises, which was started before the War, is now nearing completion, and the illustration—from a drawing in the Academy—shows the front of the new showrooms in Tottenham Court Road. The arrangement of these new showrooms and their relation to those already existing is shown by the plan reproduced below. The contract also included complete new bedding factories and a good deal of reconstruction of the existing premises. The main front is constructed of Portland stone, except the ground storey, for which Hopton Wood stone is being used; the shop windows are of walnut, other windows in iron, and sundry metal work in bronze. Messrs. Smith and Brewer are the architects. The general contractor is Mr. F. G. Minter, of Putney.

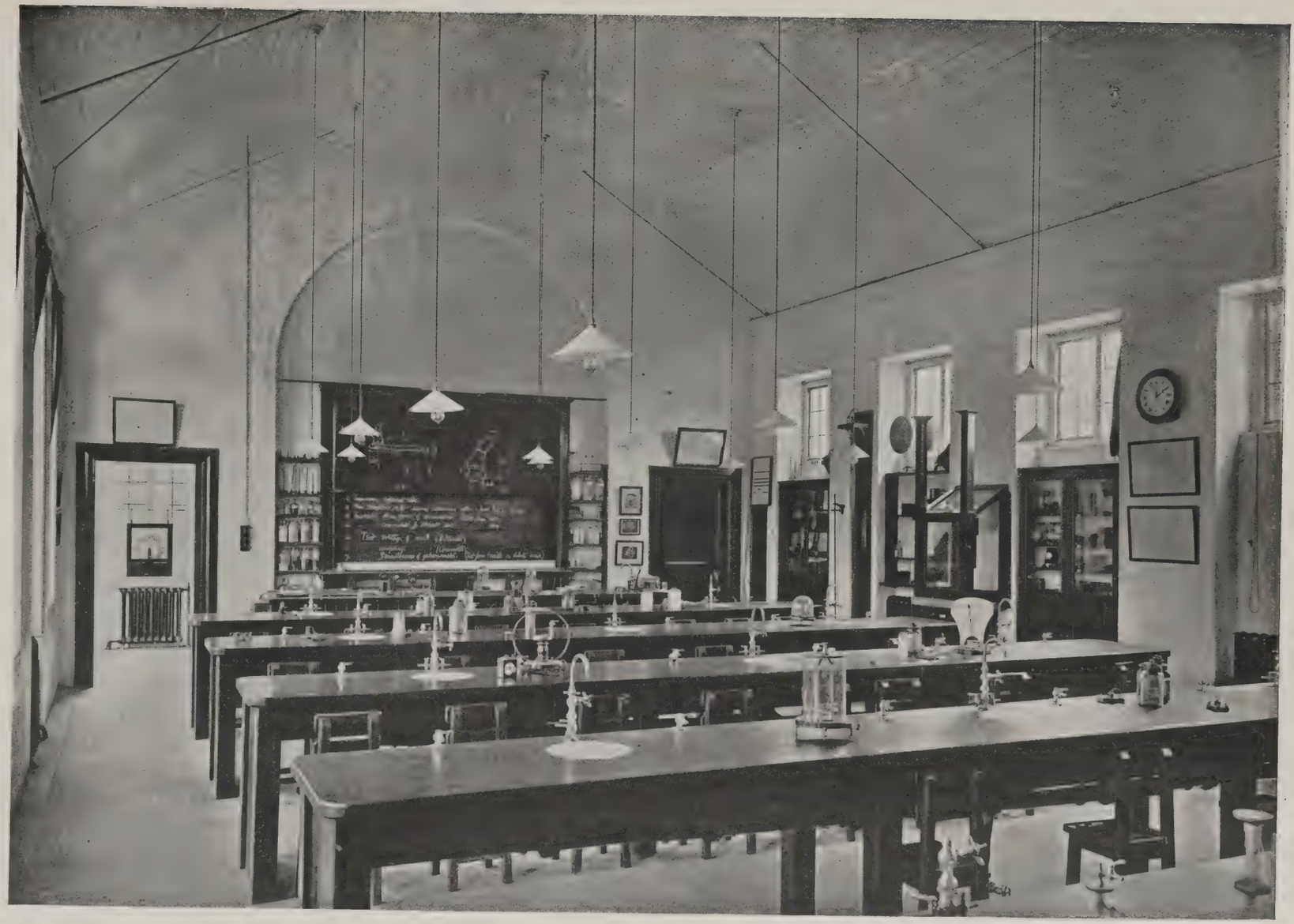


EXTENSION TO MESSRS. HEAL AND SON'S PREMISES, TOTTENHAM COURT ROAD: GROUND-FLOOR PLAN.



SCIENCE AND TECHNICAL BUILDINGS. I.—SCIENCE BUILDING. KING'S COLLEGE SCHOOL, WIMBLEDON COMMON, LONDON, S.W.

ARTHUR STRATTON, F.S.A., F.R.I.B.A., ARCHITECT.



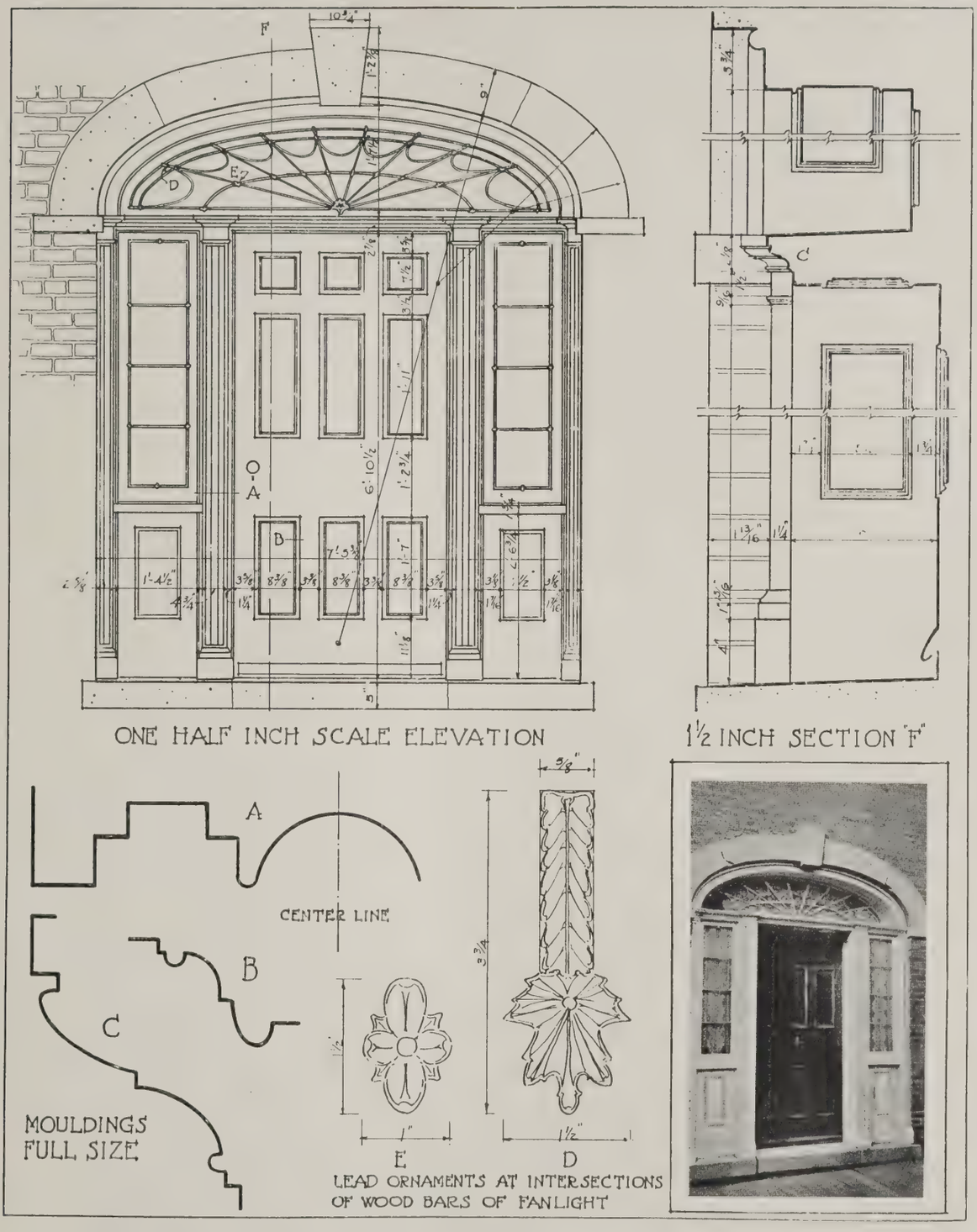
SCIENCE AND TECHNICAL BUILDINGS. II.—PHYSICS LABORATORY, SCIENCE BUILDING, KING'S COLLEGE SCHOOL, WIMBLEDON, LONDON, S.W.

ARTHUR STRATTON, F.S.A., F.R.I.B.A., ARCHITECT.



CURRENT ARCHITECTURE (SERIES III.). XLV.—NEW PREMISES FOR HEAL AND SON, TOTTENHAM COURT ROAD, LONDON, W.

SMITH AND BREWER, FF.R.I.B.A., ARCHITECTS.



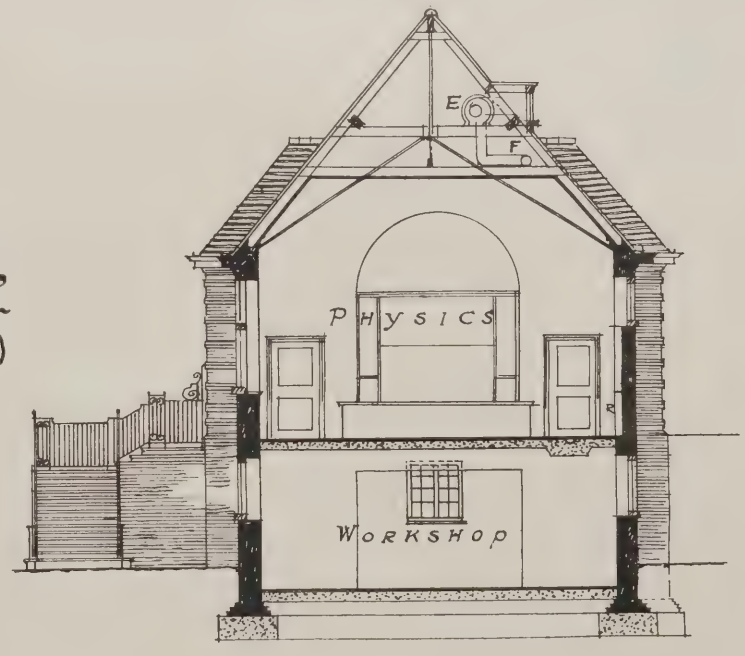
DOORS AND DOORWAYS. VI.—AT SIBLEY HOUSE, HENRIETTA, NEW YORK.

KING'S COLLEGE SCHOOL.
WIMBLEDON COMMON. S.W.

NEW SCIENCE BUILDING CONTAINING PHYSICS AND CHEMISTRY LABORATORIES, (WITH SEPARATE ENTRANCES, EACH PROVIDING ACCOMMODATION FOR 30 SCHOLARS) PREPARATION ROOMS. ETC. WORKSHOP ETC. ON LOWER FLOOR.

REFERENCES—

S. DENOTES SINK
F.C. DO FUME CHAMBER.
R DO RADIATOR.
E DO MOTOR DRIVEN BLOWER.
F DO EXHAUST FLUES AND PIPES.
WATER, GAS AND ELECTRICITY ON BENCHES. ETC.



CROSS SECTION

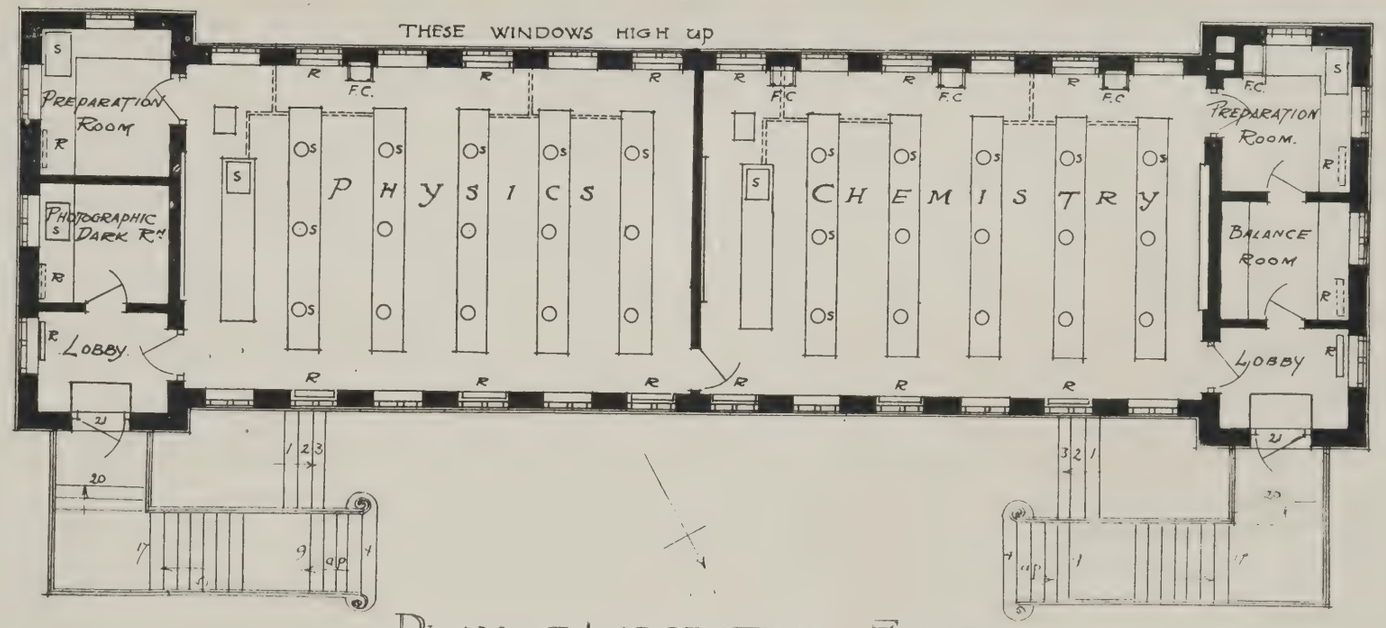


Supplement to "The Architect and Builders Journal," January 31, 1906.



LONGITUDINAL SECTION

HALF LOOKING TO FRONT — HALF LOOKING TO BACK



PLAN OF LABORATORY FLOOR

SCALE OF FEET

A.S. DELT 1916.

SCIENCE AND TECHNICAL BUILDINGS. III.—SCIENCE BUILDING, KING'S COLLEGE SCHOOL, WIMBLEDON COMMON, LONDON, S.W.

ARTHUR STRATTON, F.S.A., F.R.I.B.A., ARCHITECT.

CORRESPONDENCE.

The Editors disclaim all responsibility for the statements made or opinions expressed by correspondents, who are asked to be brief, and to write on one side only of the paper. Every communication must bear the name and address of the sender.

Replanning of Dublin.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—As a Dubliner, who feels obliged to you for presenting at such length the many schemes and views regarding the replanning of the Irish capital, I must, however, ask you to allow me to express my fears that the general tendency of what is being put forward is quite beyond what can, so far, be counted on as within the resources for reconstruction. Thus Professor Abercrombie says that "it might quite possibly happen that a few hundred yards either to the right or the left was a centre much more suitable for the traffic centre of the city." No doubt this is academically correct, for such possibilities are infinite, or at least indefinitely great, and the consequent speculative town-planning wide. And this might, perhaps, be worth while in a city like Liverpool, where, as your "City Development" article indicates, there seems a felt want for, and there are no doubt ample means for constructing additional lines of intercommunication within an ever-expanding and abundantly prospering city. But in Dublin experience has proved that a similar procedure is but "robbing Peter to pay Paul," both being penniless. I am aware of the "bull," and pass it, since, true to its Irish variety, it really clinches my case, which is that here we don't want Sackville Street to be converted into a slum Avenue de l'Opéra through the costly provision of a brand-new tramway hub and traffic centre.

Again, will Mr. James Ward explain how such a costly site for a new combined Hibernian Academy and Municipal Art Gallery is consistent with the continued parsimony of the Government towards the building necessities of the former, and with the recent want of means to provide in a cheaper locality a home for the latter? Then would there not be a difficulty about the lower gallery-type of structure balancing the higher applicable to the new Post Office?

Altogether, I fear that town-planning and aiming at grandiose architecture will never be applicable to the burned-down area, and I even more confidently submit that now it is certainly premature and a waste of the energy wanted to induce the Government to open somewhat wider its rather niggard hands.

A MODERN MAN.

[Our correspondent's line of reasoning is somewhat difficult to follow; but he seems to want larger expenditure and a smaller scheme.—EDS. A. AND B.J.]

The Question of Land Transfer.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Whatever phrase of mine may stick in the Editorial throat, there seems to be nothing sticking in the Editorial pen, and perhaps, in the matter of sardonic humour and satirical comment, we may cry quits.

May I applaud your courage in giving publicity to an expression of opinion which rarely sees the light?

I gather that, in your ironic way, you wish to imply that my former communication may be regarded as the fantastic vapourings of an idle visionary. Sirs, I am a Scot, and my head is as hard as my native granite. It is not my proposition, but its converse, which contains the attributes of fantasy.

Humanity subsists first and last upon the land. Were it not already the case the suggestion of private ownership of the common means of subsistence would be hailed with derision as a proposal too fantastic and preposterous to be entertained by any save the inmates of Bedlam.

All this pother about land transfer amounts to nothing more than an attempt to substitute complexities we know not of for complexities with which we are tolerably familiar.

It is useless to attempt, with a garden rake, the work appropriate to a steam shovel.

You think my method of dealing with the lawyer a trifle ruthless. Let me remind you that he subsists upon the perpetuation, not of justice, but of injustice, and that it is to his interest to foment the quarrels and differences of humanity. However, I am willing to forgo the pyrotechnic display, the more so as I have a suspicion that for the man of law this would only amount to a postponement of his ultimate end.

Your tears, it would seem, are ready to flow for the dispossessed landholder—have you none for his victims? Let us leave these lachrymatory outbursts to the crocodile. Compensation is a sleeping dog which the landholder will rouse at his peril. There is, in fact, a bite at both ends of this dog, and it may be that we shall have to ask the landholder how he proposes to compensate the outcast for centuries of unrighteous exclusion from the means of life.

Now, Sirs, you have attempted to father upon me the suggestion that "nobody should own the land." This is just the kind of misrepresentation which prevents our idle visions from becoming concrete and accomplished facts.

A nation, I reiterate, should own its land. Here is a proposition which will give you some trouble to contradict it, and which I believe you to be too honourable to attempt to evade.

You have the right to call upon me to develop this idea, but do not ask me to weep for the portly gentleman so snugly perched upon the apex of the human pyramid.

LANDLESS.

P.S.—I am acquainted with the jest about the surgical operation and the corkscrew.

["Lachrymatory outbursts to the crocodile," by all means. But why cry for the moon?—EDS. A. AND B.J.]

Mud-hovel Dwellings.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I admire your condemnation of mud hovels, but not your inconsistency in printing, in the same issue, a detailed description of their construction, which will surely tend to foster and encourage the idea. To me it is pitiful to think that well-to-do country gentlemen should have so little fellow-feeling for their "hinds"—I believe that is what farm-labourers are still called in certain benighted parts of the country—as to propose to house them in mud hovels, and I can only hope that the said "hinds" will have spirit enough to rebel against such treatment. Mud cabins for Englishmen! What must foreign countries think of the vaunted wealth and civilisation of England when they read, in high-priced periodicals which flatter the foibles of "country gentlemen," these calm proposals to "restore the land to the people" by putting them into mud cabins! As you have justly said, this is the extreme degradation of building. Do not, I beg of you, lend it any sort of countenance.

S. P. F.

[We do not agree that to publish the description of which our correspondent complains is at all inconsistent with our strong condemnation of mud hovels. Description is not advocacy; and in deciding to print the letter we were largely influenced by the conviction that the more that is known about *pisé de terre*, the less likely is it to be adopted.—EDS. A. AND B.J.]

SIR ROWAND ANDERSON ON SCOTTISH ARCHITECTURE.

The address written by Sir Rowand Anderson, and read on his behalf by the Lord Provost of Scotland, at the meeting of the R.I.B.A. at which the Roval Gold Medal was presented, is as follows:

Mr. President, Ladies, and Gentlemen,—This unexpected and great honour which has come to me from the King, acting on the advice of this Institute, and the generous and appreciative remarks of the President, and the reception you have given to them, make it very difficult for me to frame an adequate reply. This gold medal may be justly looked upon as the blue ribbon of the profession. It is not a political or social honour like the blue ribbon of the Order of the Garter, of which Lord Melbourne, Queen Victoria's first Prime Minister, on the occasion of the selection of someone to fill a vacancy in that exalted Order, said there was no difficulty in making a selection as there was no damned merit about it. Now, quite the contrary is the case here. Merit, you say, is the sole title recognised by this Institute. The difficulty in making a selection from a body where so many are worthy of the honour is great, and on this list there is no name that does not reflect the care with which it has been chosen, and with which it is not a great honour to be associated.

Our President has told us that this is the first time that the Royal Gold Medal has crossed the Border. That is an additional reason why I should feel proud to be the one selected to receive it, and this unique event gives me an opportunity of pointing out to you that although this is the first time that such an honour has crossed the Tweed northwards, there has been a steady flow southwards from Scotland of much architectural talent, contributing greatly to the advancement of our art. From the time of the Union of England and Scotland, which, though largely accomplished by intrigue and bribery, has nevertheless resulted in great blessings to Scotland, as well as to England, the road to the south became the great highway for Scotsmen in search of fame and fortune, and in spite of much opposition and prejudice many found them.

The first man I should refer to is Sir William Bruce, of Kinross, a contemporary of Sir Christopher Wren. His connection with England is very slight. He appears to have done some work at Ham House, in Surrey, for Lady Dysart. The next name of any consequence is James Gibbs, of Aberdeen, born 1674, died 1754. He studied for some years in Rome, and returned to London in 1710, where, under the influence of his early patron, John Erskine, Earl of Mar, he soon rose to fame. Colin Campbell, a Glasgow architect, well known as the author of "Vitruvius Britannicus," under the patronage of the great chief of his clan, the Duke of Argyll, removed to London, and carried on a considerable business as an architect. The Milne family have a long and continuous connection with building and architecture. A Milne appears as master mason to King James III. of Scotland. His family can be traced down to the end of the eighteenth century, and had a hand in almost everything, such as Royal palaces and castles, town halls, etc., and many bridges. Robert Milne, a descendant of the master mason of King James III., was born in Edinburgh in 1733. After about four years studying architecture in various parts, he returned to England in time to take part in a competition for the new Blackfriars Bridge, and was successful against sixty-nine competitors. From this time work flowed in on him, and in 1766 he was appointed surveyor to St. Paul's Cathedral, and it was he who suggested the widely known epitaph to Sir Christopher Wren. He has also a further claim to the remembrance of this Institute, in that he was an original member of the Architects' Club, founded in 1791, which dined once a month in the Thatched House Tavern during the season, out of which gathering grew the present Institute. The next best known name is that of Adam. The three sons of William Adam, of Maryburgh, in Fife, himself an architect of great repute, with many good buildings to his credit, made their descent on London in 1768. Their influence on architecture exists to the present day. A Wren church and an Adam house still hold their own. I could prolong this list, but will close it with the names of two men who have done much to deserve to be remembered and held in esteem—the late Richard Norman Shaw and James McK. Brydon, both of them my countrymen.

You have been good enough to include my services to architectural education as one of the qualifications for my receiving this gold medal. I acknowledge most gratefully your reference to this. I began to take an interest in architectural education in 1892. South Kensington up to that time had the entire control of art education, but the education they gave never seemed to produce any result beneficial to the architectural student, and it is not difficult to see why this was so. The system of payment by results poisoned the whole thing. The teachers' income rose and fell according to the number of the prize drawings produced by the student. These had to be worked up to a standard of excellence, as drawings, to meet the views of the examiners in London. So it eventually came to pass that the school existed for the benefit of the teacher more than for the taught. The helplessness of expecting anything to come out of this system of teaching as regards architecture culminated in 1892. A number of architects and others, including myself, with the aid of the Board of Manufactures, then combined to start a school entirely free from the baneful influence of South Kensington. I should here inform you that the Board of Manufactures came into existence about the time of the union of Scotland and England, and administered some of the money known as the Equivalent Grant for the advancement of the arts and industries of Scotland. In addition to what this board was able to do for us, a fair amount of money was subscribed by those interested in this new departure. But the scheme was nearly wrecked by the difficulty of getting a director of sufficient standing and acquirements for such a salary as we could afford. So, to prevent the collapse of this promising movement, I was asked, and undertook, to act as honorary director. I gave as much time as I could possibly spare to what has always been to me interesting work. With the assistance of one or two paid teachers a start was made. From the very first the scheme caught on. It gradually became recognised by the student as the best means of getting an education, to supplement what he was acquiring as a pupil or apprentice in a private office. It would take up too much of your time if I gave a detailed account of the school work, but I shall allude to one or two of the leading features of it. In the beginning of my architectural career I kept myself in contact with the best work of the past by spending all my spare time in sketching and measuring both at home and abroad, including a year in Italy and France. There was no golfing for youth in those days. Knowing the benefit I derived from this, I thought we could not do better than make the study of old work the basis of our teaching. With the consent of the committee this was done.

Another important feature in our teaching was the organising of a scheme for obtaining accurate records of buildings erected previous to the eighteenth century. This was called a national art survey. It was a very ambitious scheme, but it worked out all right. Two of the best draftsmen were selected annually, and to enable them to devote their entire time to the work they were paid small salaries, and in addition an allowance for travelling and incidental expenses. All the drawings made by them became the property of the school. This work had been going on since 1894, but has been stopped for the last two years owing to the war. There are now, however, something like 2,000 sheets, forming, I should say, the finest collection in this country. It contains, in addition to the surveys of the buildings, a large collection of drawings and details of early plaster work, wall panellings, fireplaces, and a most interesting collection of old furniture to be found in buildings still inhabited. The result of all this has been most stimulating. I never knew a more enthusiastic or industrious set of students. The work they produced was of a very high standard of excellence, and some of them secured many of the coveted prizes which you offer here to competitors from all quarters. On leaving the school the students have always been greatly sought after as assistants. They are scattered all over Britain and its Colonies, and from letters we have often received they all attribute their success to the sound practical education they had received.

I have always contended that the degree of beauty we see in our buildings and the satisfaction we derive from them depend largely on their fitness and the more or less successful expression of the purposes that call them into existence. One or two examples from my own town of Edinburgh will bring my meaning home to you. Take the Royal High School and the Surgeons' Hall, both of which belong to the period of the Greek revival. They were designed by men thoroughly educated in the art of their day. Looked at as abstract pieces of design, they are of the highest order, but the façades of these buildings are not the product of the buildings they are attached to. They are mere screens to mask what is behind them, and that might have been anything other than what is actually there. Now let us take a look at the great valley that divides the old from the new town. Overhanging the steep cliffs of the Calton Hill is seen what looks like a castle. As a matter of fact it is mistaken by many who enter Edinburgh for the first time, by the North British Railway, to be the world-wide known Edinburgh Castle. It is actually the Calton Jail. I remember meeting the late Mr. Billings, the architect, and author of "The Baronial and Ecclesiastical Antiquities of Scotland," a work which had a great influence on the domestic architecture of Scotland for many years during the last century. I had just before then seen a building of his erected for a waterwork. It took the form of a castle, and I asked him why he made this work like a castle, and not something evolved out of the use of the building. "Can you

tell me what a waterwork is like, as I must have a type to work from?" As I could not do so or convince him that, as he ought not to build a waterwork like a castle, he might at least approximate to something characteristic of the purpose of the building, I had to retire from the dispute, leaving Mr. Billings quite satisfied that his imitation castle with a high tower was a very good representative of a water-pumping station. The architect of the Calton Jail, the building I have referred to, under the influence of the prevailing taste of the day, must have looked at the problem he had to solve from the standpoint of working from a type, and so he chose a castle, but as a castle is a building to keep people out and a jail to keep people in, see what a deplorable result—one of the finest sites in the world covered with a toy castle, devoid of expression and utterly meaningless.

Again, if you take the plans of the old Scottish castles or mansions of the sixteenth and seventeenth centuries, you can read them like a book from the foundations to the chimney tops. You can distinguish the original tower that the family once lived in and held its own against all comers. On further examination, you will notice an addition made when the family became richer and times were not so warlike, and as time rolled on and it was no longer necessary to provide for defence, you will find larger additions. But now everything is done for comfort, as understood in those days, and a peaceful country life, the whole group becoming wonderfully picturesque, but it was never built to look picturesque or interesting. It was built from time to time to suit the necessities of the day and the means of the family, and hence its resulting picturesqueness. Contrast with this the mansions erected in imitation of the old ones and try to read them from the inside to the outside or the reverse. You cannot do so, as the one contradicts the other. The whole thing is a modern house, a very modern house masquerading as a castle of a territorial baron, and so you have everything in these buildings that is false, misunderstood, and misapplied, the result being a costly delusion that such a building is true art and in harmony with the traditions and scenery of the country. The aim of the teaching in our school was to counteract this sort of thing by teaching the students to look at buildings with an analytical eye and to dissect them as a medical student does his anatomy, and to realise the ideas and purposes that call the buildings into existence. The seed sown by this school and others who have wisely adopted our system of teaching was bearing good fruit before the outbreak of this terrible and unjustifiable war, and there were signs everywhere in Scotland that we had begun to develop architecture, especially in domestic work, on right lines, with a distinct national bias. The contention that Gothic and not Italian, or vice-versa, was the only style fit to be used in this country has spent itself, and there is now better Gothic and Renaissance work being done than during the period of the Battle of the Styles, as well as a growing absence of those inconsistencies I have alluded to, and I believe we can now look forward to our buildings becoming more and more characteristic of the age and purposes to which they are devoted. With those few and inadequate remarks I again offer my most grateful thanks to His Most Gracious Majesty and to this Institute for the great honour conferred upon me to-day—an honour well worth a lifetime of earnest labour and thought to advance that art to which we are all devoted.

THE MAN WHO BUILT DUBLIN.

That most versatile and most graceful of contemporary writers, "Katharine Tynan," contributes to the "New Witness" an interesting article on the Right Hon. John Beresford, whom she credits as "The Man Who Built Dublin." But he had, as the author puts it, "a man at his elbow," James Gandon.

The Right Hon. John Beresford (she writes) was the most powerful man in Ireland; and he had in his pocket the Law, the Army, the Revenue, and the Church, and he might be called the King of Ireland.

Mr. Beresford, with many other offices, was Chief Commissioner of His Majesty's Revenues in Ireland for thirty years, and in those thirty years the Dublin of to-day, of yesterday perhaps we ought to say—the Dublin that wears the strange dignity of a capital city, "the glory that was Greece and the grandeur that was Rome" when her fortunes are at the lowest ebb—came into existence. The latter half of the eighteenth century saw the building of Dublin. The Parliament Houses were finished about 1740. Following them came the noble public buildings which, with the stately streets, make Dublin so beautiful, the Custom House, surely one of the most beautiful buildings in the world, the Four Courts, the Royal Exchange, the King's Inns, and then, towards the close of the century, came that great epoch of house-building which filled Dublin with the splendid residences, streets and squares of them, which the Legislative Union doomed to desertion and degradation.

At the time Mr. Beresford began to build Dublin, Sackville Street was not. Access from the northern banks of the Liffey to the Houses of Parliament was accomplished by a ferry. The bridge nearest the sea was Essex Bridge, about which clustered the Castle, the two cathedrals, the Custom House, the theatres, together with many private residences, offices, warehouses; in fact, the daily life of Dublin was acted between that and the Parliament Houses, with Trinity College facing them. Westmoreland Street did not exist. The river from Essex Bridge flowed some way between walls, and then widened out, flowing to the sea. All the northern part of the city at this point was marsh and mud.

There is something about the natural situation of Dublin which must have appealed to John Beresford, as later it appealed to Hugh Lane. The sunsets of Dublin seen along the river beyond the Phœnix Park are very splendid. They set the great builder to seeing visions and dreaming dreams. The modern builder's dream of his picture-gallery against the sunset went down with the Lusitania. John Beresford lived to see his dream realised. He had dreamt of the river confined between quays and spanned by a bridge which should form a connecting link between the Parliament Houses and the northern flats. Looking east, he had seen the Custom House that was to rise like a fairy dream amid the beautiful atmospheric effects of Dublin. Looking west, he had seen the Law Courts in the splendour of their original scheme, which included a stately portico to reach to the river's edge. North and south, he saw streets of fine houses. The Irish nobility and gentry were in a mood of fine prodigality. The Union had not yet taken shape; 1782 and the Volunteers had secured their legislative independence. They were building, they were ready to build palaces. When John Beresford looked north and south of the river he dreamt of the palaces already in being. There was a man at his elbow—James Gandon; only such a one as John Beresford would have thought of securing Gandon for Dublin—ready to show him the beauty yet to be created. They saw it together, while as yet there was nothing between the Parliament Houses and the country north of Dublin except mud-flats.

The building of the new Custom House amid the marshes met with strenuous opposition from the good people of Dublin. Mr. Beresford's vision of quays and bridges and wide new streets and fine houses was extravagant enough, but it might pass. The idea of the Custom House in the waste was sheer madness. However, the Chief Commissioner went on his way, as he always did, although the opposition was so violent that Gandon had to lie low for a considerable period after coming to Dublin in a sort of imprisonment from which he emerged in the early hours of the morning before the citizens were awake to walk about the site for the Custom House which was to set the seal on his great reputation as an architect. Even when foundations had been made they were levelled by a rabble under the command of the Sheriff and some members of the Corporation of Dublin. Mr. Beresford simply ordered the work to be begun again; opposition died away, and in due time Dublin was graced by its Custom House.

Gandon by this time had taken up his residence in Dublin, having refused a magnificent offer from the Russian Government. He lived in Mecklenburgh Street (which came later to be a street of evil odour), so as to be near his patron in Marlborough Street. While the Custom House was rising tier by tier and the new streets were growing, Mr. Beresford and Gandon made a discovery of a youth who carved so excellently in stone that it came to them that here was the man who was fitted to work with Gandon. To this sculptor, Edward Smith, Dublin owes the figures of Justice, Fortitude, and Liberty on the eastern portico of the Houses of Parliament; the Moses, with Justice, Mercy, Wisdom, and Eloquence, over the Four Courts, as well as the Hope on the cupola of the Custom House.

Meanwhile, Dr. Bartholomew Mosse had built his hospital for women at that which is now the north end of Sackville Street, and, some years later, the Rotunda had been built for a fashionable assembly rooms, the revenue from which should help to support the hospital. Round about the Rotunda and Daly's Club-house, opposite the Houses of Parliament, moved all the social and political life of the gay Dublin of that day. The new Post Office was building in Sackville Street midway of a row of splendid mansions. New streets were springing up on every side. The house building went on on a scale of prodigal magnificence, of which the traces remain in the old Dublin houses, in the Italian stucco work, the beautiful mantelpieces, the old mahogany doors. Nothing was too fine and too extravagant to be done for those houses. I could give you a long list, if there were time, of the Lords Spiritual and Temporal and the Commons of Ireland who built Sackville Street and the surrounding streets and dwelt there in the twenty years preceding the Union. John Beresford lived till 1805. He saw his dream take shape, and more than his dream, and he saw also the dry-rot settle on all the splendour after the Union with Great Britain had become an accomplished fact.

SOME EXAMPLES OF DANGEROUS STRUCTURES.*

BY W. G. PERKINS, M.C.I., DISTRICT SURYEYOR FOR HOLBORN.

The following remarks are not intended as a complete treatment of this subject, but are simply a series of reminiscences descriptive of structures with which the author had had either to deal or of which he had had information from those who have dealt with them.

Amongst the causes of a dangerous structure are the following: (*a*) faulty construction, (*b*) faulty materials, (*c*) faulty design, (*d*) decay and fatigue, (*e*) overloading, (*f*) removal of extraneous support, (*g*) wind pressure, shock, etc., (*h*) fire and explosion; bombs.

The author proposed to enumerate a number of cases where failures had resulted from one or more of these causes; generally speaking, several occur at the same time, particularly (*a*), (*b*), and (*c*).

Perhaps few of us have had any experience with failures arising from faulty design and materials in modern structures, as a sufficient period has not elapsed for time to have done its work, but there are numerous instances in buildings erected by former generations.

Old Mortar.

We moderns are often called to account for the supposed inferior manner in which we build, being told that our buildings are not solid like those erected in "the good old times," that we have lost the art of making good mortar, etc. People who make such remarks have, I fear only an acquaintance with the jerry-builder of the very bad type. The majority of buildings erected in London one hundred to two hundred years ago were constructed in a most inferior manner. The mortar appears to have been compounded with a fat lime, dry-slaked, and, judging from the nodules of loam it contains, mixed with a good deal of the "top spit" of the field. Naturally, such stuff has, and had, no binding qualities, and to this day is only so much dusty rubbish.

The bricks were badly shaped and easily broken, so much so that in taking down old walls one finds course after course of what appeared to be headers to be only "bats." This resulted in the walls being built in a series of "half-brick" or $4\frac{1}{2}$ in. skins, which sooner or later separated and bulged, and many a dangerous structure is due to this cause alone.

Generally speaking, bulging occurs in the basement storey immediately below the level where the thickness of the wall diminishes by means of a "set off" from one thickness to another, say 1 ft. $10\frac{1}{2}$ in. to 18 in.

Sometimes large portions of brickwork, roughly triangular in elevation and wedge-shaped in section, burst from the walls, and when this is the case no time should be lost in needling the walls well above the point where the failure shows itself.

Weak Piers.

In many old buildings the main beams of the floors are placed diagonally, and the loads from the roof and four stories are imposed upon a pier of brickwork about 14 in. square. Needless to say, such piers have crushed.

Several cases I have dealt with have been party walls built with the bricks and mortar before described, about 50 ft. in height from the basement floor line to halfway up the gable. They have failed by crushing in the basement, although the load consisted of only their own weight and that of the dwelling-room floors and furniture on them.

The author had found a wall of this period built with two skins of brickwork, $4\frac{1}{2}$ in. thick, "tied" together with wooden laths at intervals of about 18 in. in height, the space between being filled with small pieces of brick and stone.

Brickwork Shells.

A form of construction frequently found is a shell of $4\frac{1}{2}$-in. brickwork around a stout timber post. You see the brickwork bulging and wonder why a stout-looking pier, perhaps $2\frac{1}{2}$ bricks square and 8 ft. in height, should be failing under a comparatively light load. The explanation is that the timber post has decayed at its lower end and the thin shell of brickwork is unable to carry the superstructure. A very interesting case of this kind came under the author's notice. Having occasion to inspect the premises, he found the walls generally were of the kind already described, and that the piers of the front external wall were yielding. The piers were cut into and, as he suspected, timber posts rotten at the ends were disclosed. These posts extended up to the second floor, and were quite sound in the upper parts. Sir Francis Fox was consulted by the owners, and it was decided to grout the whole of the walls with Portland cement. Numerous small holes were cut in the interior faces just large enough to insert the nozzle of the grouting machine. After well soaking and washing the interior of the wall with clean water under pressure from the machine, Portland cement grout was pumped in, and as it appeared at the joints and cracks it was dammed with clay stuck upon the faces of the walls by workmen watching for its appearance. The whole of the walls were treated in this way with success. Prior to the grouting they sounded hollow, but they now sound and have every appearance of being solid. After the grouting the wooden posts were cut out of the piers, and brickwork in cement was substituted.

Some alterations, involving the taking down of a substantial-looking chimney, were taking place in the author's district. Above the roof of the building the chimney was rectangular, below it was triangular on plan. When the rectangular portion had been taken down, the part between the ceiling and the floor of the topmost storey collapsed and fell on to the roof of a two-story building adjoining, crushing in the roof.

The author saw it directly afterwards, and as, with the exception of the facing bricks, there was only a heap of rubbish (small pieces of bricks and mortar), he came to the conclusion that the large triangular portion had been built hollow—just a shell of 4 in. brickwork filled up with brick rubbish. The vibration caused by the alterations, which included a good deal of knocking and the hoisting of girders, had evidently caused this rubbish to settle down and exercise an outward pressure on the 4 in. shell of brickwork, and as soon as sufficient weight had been removed by the demolition of the upper part of the chimney the pressure burst out the sides of the shell.

Modern brickwork is not without its faults, due principally to the lax manner in which it is supervised and an imperfect knowledge on the part of the specification writer. He will, for instance, require that four courses shall not exceed 12 in. in height, and then select bricks that are very little less than 3 in. in thickness. The consequence is that the bricklayer, to keep to the specification, will put an insufficient bed of mortar in laying the bricks. The author has had as much as 3 ft. of glazed brickwork at a time taken down because there was absolutely no mortar in any of the beds. Again, when the bricks have a frog, that frog should be upwards when the brick is laid, otherwise the brick beds only on the rim and its bearing area is reduced by one-third. When the bricks have two frogs one should be "buttered" or filled in before laying.

Unless strictly supervised the vertical joints are never filled solid. Some mortar is rubbed over the top of the course with the flat of the trowel, which may enter the joints some three-quarters of an inch.

A habit of the bricklayer, after having spread the bed, is to work the mortar away from the centre with the point of the trowel, so that the centre of the bricks is unbedded. The mortar does *not* squeeze along and make a solid bed as some people argue. To ensure solid work, the beds should be thickly spread and the bricks pressed down into it, frogs up, and the whole course grouted up by heaping mortar on the wall and softening it with water from a "gauge-pot" so that it becomes soft enough to flow into the vertical joints until they are full.

Unless the beds and joints are full you cannot expect to get the full value out of your walls and piers, which, by the way, are always eccentrically loaded. The evil is aggravated when the wall is faced with stone, for the mason generally spreads a bed of putty, 3 in. or 4 in. wide, along the outer edges of the stone he is laying (which may be 14 in. or 18 in. on bed, such as I have lately seen), points up the back edge, and after having poured some grout down the vertical joints, considers he has made a solid job! Have the stone taken up again and note the result. Workmanship of this sort leads to "flushing" and the fall of pieces of stone. The bed of every course of masonry should be screeded.

Damp-proof Courses.

Many people object to slate damp-proof courses, as they become inefficient owing to the slates cracking. They only crack or crush when they have been imperfectly bedded. The usual way is to lay them on a bed of cement (perhaps containing a number of small stones) and *tap* them down with the trowel. This always results in the centre of the slate being unbedded. Walk along such a damp course on your heels, and you will demonstrate to the builder in a striking manner the hollowness of his work. Use cement made with a sand that contains no small stones, *rub* each slate well into its bed, and you will get a damp-*proof*—not a damp—course.

The author is not partial to asphalt damp-proof courses unless they are of genuine asphalt. Artificial asphalts are brittle when cold, but become soft in the heat of summer or near a heating chamber, and squeeze out. This allows settlement, and in the case of a retaining or other wall with a lateral thrust to sustain, may allow sliding on the bed.

If you use broken brick for concrete, see that it is free from any old plastering or Keene's cement, Parian cement, Sirapite, or similar material. Provided this aggregate be quite clean, it is one of the best for floor work.

Many overhanging cornices of stone or brickwork and cement have become

* Extracts from a paper read at the sixty-seventh ordinary general meeting of the Concrete Institute.

dangerous through being insufficiently weighted or tied down. The weight of the overhanging portion and its overturning moment must be carefully estimated, and a sufficiently heavy blocking course added so as to obtain a moment of stability of at least 2. The top of the wall upon which the cornice rests should at the same time be well tied in, for the cornice, though stable in itself, will by reason of the eccentric load it imposes upon the wall tend to draw it outwards.

The type of cornice and parapet most prone to fall is that occurring in a terrace of houses having V-shaped roofs. There is a considerable area of thin wall exposed to the weather on both sides; wet and frost soon destroy the cementing properties of fat lime mortar, and then the overhanging weight of the cornice, plus perhaps a little wind pressure or vibration, brings the whole lot down.

Many other common and uncommon causes of failure are dealt with instructively in this valuable paper, which is published in full (with many illustrations) in the Transactions of the Concrete Institute, Denison House, 296, Vauxhall Bridge Road, S.W.

DRY ROT IN TIMBER.

In view of the importance and interest of the subject of dry rot in timber, and its prevention, we reprint the following article from our contemporary the "Contract Record," of Toronto:

The general causes of decay in timber are the presence of sap, alternate wetness and dryness, or exposure to moisture accompanied by heat and lack of ventilation. Rotten timber is due to decomposition or putrefaction, generally occasioned by dampness, which proceeds by the emission of gases, chiefly carbonic acid gas and hydrogen. There are two kinds of rot to which woodwork in a building is subject, dry rot and wet rot. The chief difference between them seems to be that wet rot occurs where the gases involved can escape: by it the tissues of the wood, especially the sappy portions, are decomposed. Dry rot, on the contrary, occurs in confined places where the gases cannot escape, but enter into new combinations, forming fungi, which feed upon and destroy the timber.

Dry rot is generally caused by lack of ventilation. Confined air, without much moisture, encourages the growth of the fungus, which eats into the timber, renders it brittle, and so reduces the cohesion of the fibres that they are reduced to powder. It generally commences in the sapwood.

Dry rot is especially dangerous because it not only eats up the entire timber in which it originates but the germs of the fungi producing it spread themselves to all adjacent woodwork without necessary contact between the diseased and the sound wood.

Definition of Fungi.

There are but few common or popular names for fungi, and the few there are, such as dry rot, punk, toadstools, etc., are exceedingly vague and indefinite. The Latin names are commonly used in scientific literature. Their use implies an exact identification. "Dry rot" is used to signify broadly the following fungi: Merulius lachrymans and other members of the Merulius genus; Coniophora cerebella (or Coniophora puteana). The name "Polyporus family" (fungi having many pores) has been used to include broadly any of the pore fungi having pores or holes of various sizes and shapes in the fruiting surface. Fruiting fungi can be easily identified, but it is impossible positively to identify the young sterile growth.

Conditions Favourable to Growth.

The conditions required for the germination or growth of the merulius lachrymans have often seemed mysterious. The spores germinate in an eccentric manner and frequently refuse to grow to fruition on their customary host in artificial cultures. Dry rot fungi have two methods of reproduction, and can remain a long time in a resting state. The common reproductive body, corresponding to the seed of higher plants, is called a spore, and grows over the surface of the plant. Spores are brown in colour and therefore may be easily distinguished from the surrounding sterile growth. They are microscopic in size; a single plant produces many millions, and their small size allows them to float a long distance in the air.

Under unfavourable conditions for growth, such as insufficient moisture, some of these destructive fungi assume a form of reproduction different from that by which they ordinarily spread. In this form the growing plant separates into small sections which can sprout and grow again when favourable conditions arise. It can remain in this resting state for a considerable time in air-dry wood.

Rot in wood was originally supposed to be a chemical action similar to the rusting of iron, and the delicate lace-like plants, tough brackets, or brown leathery growths were supposed to be attracted by the decayed wood, rather than being the cause of the rotting. The chemistry of the rotting process is not well known even at the present time. It is probable that there is some chemical action in addition to the life progress of the fungus through the wood cells. It is noted in blocks of sound wood in which fungus has been cultivated that when the fungus is freshly removed from the moist wood it has the appearance of being bright and sound as ever; but after being left in a dry atmosphere for a time the wood shrinks and forms the characteristic brown, cracked, and powdery material which is familiar as rotted wood.

Without doubt the fungus ceases to make any vital progress very soon after drying commences, and the final browning and powdering is brought about by oxidation by the air, assisted by certain organic enzymes, either already present in the wood cells or formed by the activity of the fungus.

In most cases the rotting found has taken place rapidly, instead of having been, as sometimes supposed, a slow continuous process similar to the rusting of iron or the weathering of stone. Sometimes after the timber has been partly destroyed the fungus growth is arrested, leaving sufficient strength to carry the load, and when the rotted timber is discovered years later it is assumed that destruction has been progressing slowly since the erection of the building.

Dry rot progresses much faster in summer than in winter in an ordinary building which is heated and thus has its air made relatively dry during the winter months. Moisture produces the condition most favourable for rapid rotting, the rate of decay being dependent on the relative humidity—relative humidity being defined as the ratio of the amount of moisture present at any given time to complete saturation, or the percentage of saturation of the air at the given temperature. The relative humidity of air in a room, or basement, sometimes is very different in places only a few feet apart, and the difference is sometimes sufficient to stop the growth of certain fungi.

The effect of moisture is not limited to the air, but extends to the interior of the timber. Weaving room and paper mill timbers are frequently found with a sound shell both inside and out, and the interior entirely rotted away.

That wood-destroying fungi cannot grow under water, or with the wood cells filled with water, is proved by many examples. One of the fine points in the successful design of wood stave pipe for conveying water under pressure is to design its staves so thin that the pressure will keep the wood saturated; then, it is claimed, it will last indefinitely without decay. Wood of great antiquity has been found buried in clay in a perfect state of preservation.

Dry rot, or merulius lachrymans fungus, will grow on the surface of wood at atmospheric saturations from 96 per cent. to 100 per cent. It will grow inside large beams of susceptible material at a much lower percentage of atmospheric saturation. A possible source of moisture for supplying the requirements of a fungus growing inside a large beam is the decomposition of the beam itself. Chemical analysis shows rotted wood to contain relatively less hydrogen and more carbon than the original sound wood; this would indicate that the hydrogen part of the cellulose or lignine molecule is more strongly attacked than the carbon part. This would result in the formation of water, if the decomposition is accompanied by oxidation.

The dry rot disease is chiefly transmitted by direct contact, but living spores carried in the air can take root when they find a favourable resting-place. Fungi are frequently carried in lumber and spread by placing it in large piles with scant ventilation.

In examining a building affected with dry rot, the extent of the rotting can generally be estimated approximately by boring test holes in the beams and columns at frequent intervals. If the material is badly rotted, the borings brought out will be in the form of brown powder or mud, according as the wood is wet or dry. Hammering on the timber with a machinist's hammer is another method frequently adopted. In this way the outer shell of apparently sound beams has been broken through, showing the entire destruction of the interior.

To determine whether the rot is still alive is frequently a complicated matter. If it is growing on the surface of the wood the fresh growth of lace-like plants is significant, but the more frequent condition is where the dry rot fungus is growing inside the wood, with no outward manifestation. In this case a strong indication of living fungus is the moist appearance of a freshly cut section.

Prevention of Rot.

For ordinary building construction the best means to preserve timber from decay is to have it thoroughly seasoned and well ventilated, and if these conditions are secured there is little danger of rot. Ventilation is generally the first preventative measure suggested. Dry wood which is placed in an atmosphere well below the moisture requirements of a given fungus is undoubtedly incapable of infection with that fungus; but ventilation does not necessarily cause drying, as the wood will become drier or wetter according to the relative humidity of the air with which it is ventilated. Therefore timber ventilated

with moist air may have its rate of rotting accelerated rather than retarded.

A heavy coat of paint may retard or accelerate the rate of rotting, depending upon whether it prevents the wood from absorbing or giving up moisture. The condition most commonly met, in which paint causes rotting, is when it is applied to green timber saturated with water. With dry, sound timbers which are to be placed in a moist atmosphere a paint will doubtless prove beneficial in proportion to its waterproofing qualities.

It is probable that a very important factor in the resistance of several woods to fungus growth is the presence of some moisture-resisting material, such as resin, which prevents sufficient water from being absorbed under the ordinary conditions of atmospheric humidity for the requirements of common fungi. On the other hand, the presence of hygroscopic materials in wood cause it to absorb large amounts of water, in order to maintain equilibrium with the atmospheric humidity, and would render it more susceptible to attack by fungi.

Heat and drying are useful in stopping rot. Often an infected building can be sterilized by skilful use of its own heating system. Merulius lachrymans is particularly sensitive to heat, a temperature of 108 deg. Fahr. for three hours, or 115 deg. Fahr. for one hour, being sufficient to kill it. It is also killed by complete dryness; but ordinary air drying does not kill it. Large beams and girders are better built up and cased, and posts should be bored longitudinally. But even columns with holes through them and the sections of built-up beams must be given a chance to season, as the common custom of boring green or wet columns just before they are put in place in a building, and using damp or green lumber for built-up beams, leaves ideal places for the growth of fungus. Holes in columns, moreover, have the objection that they form a convenient passage-way for the fungus to move rapidly from floor to floor in a diseased building.

The causes of natural resistance to fungi in wood are obscure and have been investigated but little. Heartwood is generally much more resistant to fungi than sapwood. The presence of starches and sugars in the sapwood, which serve as foods for fungi, as well as the greater water content, are probably the chief causes of its more rapid destruction, while the resistance to water of the heart resin and the antiseptic action of tannin are undoubtedly important functions in the resistance of the heartwood. The limiting power of resin is not absolute, but varies with the moisture, variety of fungus, and time of exposure. The resistance of wood to decay does not depend upon any one factor, but is the result of many heterogeneous components acting together.

Antiseptic treatment is the only practicable procedure with lumber of doubtful durability, because of porosity, light weight, sap, or previous exposure to infection, or when it is to be used in a moist place. Much attention has been given to the treatment of railroad ties, posts, etc., but very little study in the past has been given to the treatment of mill timber. The increased life of railroad ties, treated with an antiseptic of 10 lb. of creosote per cubic foot, is given by the United States Forest Products Laboratory as from eight to fifteen years.

The problem of treating timber for factory construction, however, is different from that of railway ties or posts. Increased fire hazard, resistance to paint, and a disagreeable odour, are items to be considered, though these are of no importance in the case of ties or posts. For this reason the numerous creosote and tar compounds are often unsuitable. The metal salts, such as corrosive sublimate, are preferable, according to all the evidence thus far available. Coal tar compounds are more used for preservative treatments of wood than all other materials together; they act mechanically and chemically, serving as waterproofing as well as antiseptics. The penetration of antiseptics has been increased by the use of vacuum and pressure processes, applied in closed tanks.

Various observations show that liquid oils do not thoroughly waterproof wood and, from all evidence obtainable, fungus is able to thrive about the same on oil soaked wood as upon wood without it.

In building a paper mill or weaving mill, or any structure in which the humidity will be high, antiseptic treatment is well worth its cost with any timbers now available.

Summing up the question of dry rot, and its menaces to timber structures, it may be said that the fungi causing destruction of buildings are apparently few in variety, and their habits are controlled chiefly by the supply of moisture and the temperature; it is well worth the cost to heat the buildings as soon as possible after completion; buy heartwood whenever possible and subject it to a chemical treatment of sufficient strength to kill any latent fungi that it may contain, and to protect the surface from future attack; also provide good ventilation, and the menace to the safety of structures by dry rot will be largely prevented.

NEWS ITEMS.

Single-Apartment Dwellings in Glasgow.

Glasgow City Council has completed a block containing twenty-four single apartment dwellings, furnished, in the Calton area, to provide temporary shelter for married couples at 6s. a week.

Change of Address.

The G.E.C., Ltd., of London and Witton, Birmingham, etc., advise us that the address of their Cork branch, from whence all orders from the South of Ireland are attended to, has now been altered to No. 76, Grand Parade.

Town-Planning Enquiry at Armthorpe.

The Local Government Board have notified the Doncaster Rural District Council of their intention to hold, on July 7, an enquiry into their application for authority to prepare a town planning scheme in respect of the Armthorpe area.

Building at Hornsey.

Eighty-six new houses were completed for occupation in Hornsey last year. Of these thirty-two were at Muswell Hill, fifteen at Crouch End, twelve at East Hornsey, eleven at Highgate, nine at Stroud Green, and seven at West Hornsey. There were none at Harringay or Finsbury Park. Six houses were converted into twelve flats.

Increased Wages for London Builders' Operatives.

On and after July 17 an advance in wages of one penny per hour will be made to all builders' operatives in London, as the result of a recent decision of the National Building Trades Conciliation Board. The National Building Traders' Federation applied for an advance of 2d. per hour, but the Conciliation Board's decision will increase the wages of London builders' operatives by 4s. 2d. in a fifty-hour week, and affect the wages of carpenters and joiners, stonemasons, bricklayers, smiths, and fitters, wood-cutting machinists, heating engineers, and domestic labourers, to the number of nearly 100,000 men.

Re-Planning of Dublin.

Mr. William A. McConnell, assistant hon. secretary of the Civics Institute of Ireland, writes from 7, Ely Place, Dublin, on June 17: "It will doubtless be of interest at this time to know that the Marquess of Aberdeen has, in view of the altered circumstances prevailing in our city, authorised the adjudication of his competition to proceed, and the work has now been put in hand."

Housing Shipbuilders at Chepstow.

The Standard Shipbuilding and Engineering Company has been formed to construct standardised steamers, in view of the shipping losses suffered during the war. A suitable site has been secured on the River Wye near Chepstow, and an early start is assured. There is a proposal to form a separate company to lay out for the benefit of the workmen and their families roomy houses of the garden city type.

Forthcoming Arts and Crafts Exhibition.

The forthcoming exhibition of the Arts and Crafts Exhibition Society, in the galleries of the Royal Academy, in the autumn, will be open to all craftsmen, whether members of the society or not, and works will be received and exhibited under conditions similar to those of the summer exhibitions at the Royal Academy. The address of the secretary, Professor E. S. Prior, A.R.A., is 1, Hare Court, Temple, E.C.

Military Cross for Liverpool Architect.

In the list of recipients of the Military Cross appears the name of Second-Lieutenant Geo. H. Havelock Sutton. Second-Lieutenant Havelock Sutton is well known in Liverpool, being a partner in the firm of Havelock Sutton, Son, and Simpkin, architects, surveyors, etc., of that city. He went to the front at the early part of 1915 with his regiment, and at the end of the year he was attached to the Twelfth Division Staff. He was dangerously wounded in the middle of January this year, and was in hospital at Rouen for sixteen weeks, and is now at Lady Ridley's hospital in London.

National Housing Conference.

At Lancaster, on June 16, a national conference was held by the National Housing and Town Planning Council to discuss problems likely to arise after the war. A large number of Co-operative Congress delegates took part. It was strongly emphasised that, unless a definite scheme were prepared, there would be a danger of scarcity of employment for returning soldiers. Schemes should be inaugurated. Resolutions were adopted calling the attention of the Government to the need for the provision of additional houses for working classes and urging that twenty million pounds should be set apart to make advances to local authorities so as to enable them to provide houses at reasonable rentals. The Conference also passed a resolution in favour of a co-operative housing policy, so as to give facilities for obtaining capital for housing and town planning, whilst the opinion was expressed that greater care should be exercised in the housing of co-operative employees.

NEWS ITEMS—*continued.*

Contractors' Claim for £97,000.

At the further hearing, on June 30, of the case of Spencer Santo and Co. v. H.M. Commissioners of Works and Public Buildings, Mr. Francis Riddle, building manager, was under cross-examination by Sir R. Acland, K.C., and the hearing was again adjourned.

Town Planning and Social Science.

A lecture, under the auspices of the School of Social Science and of Training for Social Work, was delivered last week at Liberty Buildings, Liverpool, by Professor Patrick Abercrombie, M.A., of the Liverpool University School of Architecture, on town planning. This was the last lecture of a series arranged by the School of Social Science, with the object of creating a more general interest in movements affecting our national and civic life.

Glasgow Building Trades Holidays.

A combined meeting of employers and operatives, representative of all the building trades in Glasgow, was held in the Building Trades Exchange to arrange for uniform procedure in regard to the summer holidays. It was agreed that all work of a private nature be suspended during the usual Fair Holiday period in July; that work in Government controlled establishments continue during the holiday period as required, on the terms and conditions provided for by the Minister of Munitions, and work on munitions and in connection therewith in uncontrolled establishments proceed as required during this holiday period on the terms and conditions provided for in the bye-laws of the several trades.

A New Soldiers' Home at Aldershot.

The new soldiers' home built by the Baptist Union at Aldershot, which Mr. Lloyd George will open on July 14, is of red brick and Bath stone. Its concert-hall is the largest of its kind in Aldershot. It has a fairly large billiard-room, containing two tables, and there are games and reading-rooms. Its canteen is divided from the kitchen by a wall, the food coming through a buttery hatch. There are washing-baths and shower-baths, but the greatest luxury of all is a drying chamber, which is said to be an absolute novelty even to soldiers' homes. Here the soldier soaked from parade or route march can deposit his overcoat or tunic, and can tackle his tea or supper with the comforting assurance that the garment will be dry at the conclusion of his meal.

Leeds and Yorkshire Architectural Society.

The annual general meeting of the Leeds and West Yorkshire Architectural Society was held on Thursday, June 15, at 5, Greek Street, Leeds, Mr. G. F. Bowman in the chair. Mr. Whitehead presented the annual report of the work done by the society for the past year, and mentioned that the department of architecture at the Leeds School of Art, under Mr. G. J. Coombs, has received recognition from the Royal Institute of British Architects, and is the first provincial school of Art to obtain it. Mr. R. Fielding Farrar presented the annual balance-sheet, which was adopted, and it was proposed, seconded, and approved, that a sum of £150 be invested in the War Loan. The following officers were elected for the ensuing year: President, G. Fredk. Bowman; vice-presidents, J. F. Walsh, F.S.I., and C. B. Howdill, A.R.I.B.A.; hon. treasurer, R. Fielding Farrar, A.R.I.B.A.; hon. librarian, G. J. Coombs, A.R.C.A.; hon. secretary, Wm. Whitehead, A.R.I.B.A; and the following members of the Council: Messrs. W. J. Morley, F.R.I.B.A; W. C. Smithson, A.R.I.B.A.; J. C. Procter, A.R.I.B.A; J. E. Braithwaite, A.R.I.B.A; W. Alban Jones and Douglas Bowman (Associate member).

SIR ROWAND ANDERSON ENTERTAINED BY SCOTTISH ARCHITECTS.

Sir Rowand Anderson, F.R.I.B.A., was the guest of the Architectural Societies of Scotland at a luncheon in the Caledonian Station Hotel, Edinburgh, on June 29. Mr. T. F. Maclennan, A.R.I.B.A., President of the Edinburgh Architectural Association, occupied the chair. The company numbered about 100, and included Lady Anderson, Lord Provost Sir Robert Inches, Sir J. H. A. Macdonald, Sir James Balfour Paul, Sir John J. Burnet, Professor Baldwin Brown, Sir Robert Lorimer, etc., etc.

Lord Provost Inches, who, on account of Sir Rowand Anderson's indisposition, went to London to receive the medal on his behalf, handed over the medal to Sir Rowand, and read a letter from Sir Aston Webb, R.A., expressing admiration of Sir Rowand Anderson's work as an architect and in the cause of education.

Sir John J. Burnet, of the Glasgow Institute of Architects, presented an address of congratulation in the name of the architectural societies of Scotland. The address made reference to the magnificent record of Sir. Rowand Anderson's accomplished work, the invaluable services he had rendered to the cause of architectural education, and his untiring devotion to the interests of the profession, which made him well worthy of the highest honour to which an architect could aspire. Sir John Burnet alluded to Sir Rowand Anderson's great characteristics, his constructive power, his knowledge of the craft, and his high ideals of craftsmanship, which he had done much to develop. In support of the address speeches were also delivered by Mr. Harbourne Maclennan, Aberdeen Society of Architects; Mr. G. P. K. Young, Dundee Society of Architects; Mr. T. Forbes Maclennan, the chairman, and Mr. Paul Waterhouse, vice-president of the Royal Institute of British Architects.

The Chairman said they were all proud to show Sir Rowand Anderson's works to admiring strangers as those of an Edinburgh man; they were worthy additions to the architecture of their beautiful city. On behalf of the younger generation he expressed indebtedness to Sir Rowand for his generous and invaluable services in the establishment of sound architectural teaching in Edinburgh, and also for the ideals which inspired him and for the fight he had made against all shams in misapplied architecture.

Sir Rowand Anderson expressed his deep thanks for the great honour conferred on him by the Royal Institute, and his gratification at receiving so generous a tribute from his brother architects.

Sir J. H. A. Macdonald, proposing the toast of the Architectural Societies of Scotland, said that the criticism of their guest's work was likely to be less and less acrid and more and more sweet as his work got that touch of age which was always an improvement to architectural work. There was nothing shabby or sham about his work. Sir Robert Lorimer replied.

R.I.B.A. FINAL EXAMINATIONS: ALTERNATIVE PROBLEMS IN DESIGN.

Following are particulars of the subjects for the Alternative Problems in Design of the R.I.B.A. Final Examinations:

Subject XXVIII.

(*a*) The Hall and Staircase to a National Museum. The hall to be 38 ft. wide. The inner swing doors and screen to be shown, but not the outer part of the entrance. The height of the main storey to be 20 ft. from floor to floor. Four steps in the hall to lead up to the main floor level.

Doorways to galleries on either side and access to galleries at back of staircase required. Top light to the staircase. Openings on first floor looking into the hall or stair or both if desired.

Drawings.—Two plans and two sections to $\frac{1}{8}$-in. scale and details to $\frac{1}{2}$-in. scale.

(*b*) A Small Country House to cost £1,500. To stand in ground 200 ft. frontage on the south-west of a country road and 300 ft. deep. The view is to the south and the ground slopes 1 in 25 to the south-west.

Accommodation required. — Dining-room, good drawing-room, loggia or verandah, kitchen, small housemaid's pantry, etc.; four bedrooms, bathroom, three w.c.'s.

Drawings.—Two plans and roof plan, section and elevation to $\frac{1}{8}$-in. scale required. Block plan of the whole site, scale 32 ft. to an inch.

The student is to cube out the building, showing how he arrived at the cubes, and to price it.

Subject XXIX.

(*a*) A Mausoleum to the memory of a shipowner and his family.

To be placed on a plot of ground 24 ft. by 20 ft. and to be simple in treatment and to cost about £1,000. Wall spaces for inscriptions. Vault not to be shown.

Drawings.—Plans, full section, and one or two elevations to $\frac{1}{2}$-in. scale and detail of some part to a larger scale.

(*b*) A Chapel to a Two-Storied Suburban Infirmary. To hold 150 patients and staff altogether. Entrance from the main corridor of the building on both floors.

Drawings.—Two plans, section, and two elevations required to $\frac{1}{8}$-in. scale, and details to $\frac{1}{2}$-in. scale.

Subject XXX.

(*a*) A Pavilion and Ornamental Pool, etc., at the end of a lake in a park. The total space to be dealt with to be about 300 ft. square and 4 ft. above the surface of the lake.

Drawings.—General plan to 1-16-in. scale, elevation and details to a suitable scale to explain scheme.

(*b*) A Timber and Lead Lantern on the Roof of a Hall 40 ft. wide, the ridge of the roof of which is 40 ft. from the ground. The lantern to be about 11 ft. wide.

Drawings.—Plans at various levels and the necessary sections and elevations to $\frac{1}{2}$-in. scale. All construction to be shown, including the trusses to carry the lantern. Any details to a larger scale that may be desirable.

Dates for Submission of Designs in 1916-1917.

	Subject XXVIII.	Subject XXIX.	Subject XXX.
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Melbourne ...	Nov. 30	Jan. 31	Mar. 31
Sydney ...	Nov. 30	Jan. 31	Mar. 31
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THE ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, July 12, 1916. Volume XLIV. No. 1123.



THE GALLERIES, HUNGERFORD MARKET. CHARLES FOWLER, ARCHITECT.

From a water-colour drawing at the Royal Institute of British Architects.

(*See page 15.*)

THE ARCHITECTS' & BUILDERS' JOURNAL.

JULY 12, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1123.

EDITORIAL.

IN this country we have learned to take our victories quietly. No pæans have been raised, therefore, over the rejection of the Charing Cross Bridge Bill. Nevertheless, it is an occasion for real gratification, which has been expressed, as a rule, with the dignity and restraint that befit a triumph of principle, in which neither personal animosity in any form, nor political bias in any degree, is at all involved. What gives value to the victory is the proof it affords of the changed spirit of Parliament and the public on issues which the bridge question typically represents. Formerly it was assumed that the railway companies could do exactly as they liked in such matters, and that opposition to them was futile, if not impious. Notoriously they had too much influence in Parliament. Perhaps because they abused it, this influence has been for some time past steadily waning; and the view of some cynical general manager, that the public exists for the benefit of the railways, is visibly in process of readjustment: the pyramid is no longer to stand on its apex, but is to be "broad-based upon the people's will."

* * * *

It must be acknowledged—and by no means grudgingly or reluctantly—that on this occasion the company have conducted their case with exemplary good manners. As the people were in no mood to tolerate the old autocracy, blandness was undoubtedly the better policy. But there was more in it than that. It is conceivable that the exquisite courtesy of Sir James Dent, while native to him, is also typical rather than peculiar. It is a great change from the hortatory and domineering tone of the railway magnates of a past generation; and it secures for the company our sympathy in the difficulties in which its defeat will no doubt place it. Those difficulties, we trust, will dissolve when, in due time, the State, the public, the municipal authorities, and the railway companies co-operate for the betterment of London. As Professor Lethaby so opportunely hinted, an Imperial Memorial Bridge at Charing Cross will not only make London "tidy" and respectable, but will stand as a symbol of her conversion to the larger view of commercial economy, as well as a not ignoble memorial of her greatness among the nations.

* * * *

Charing Cross Bridge as it stands, is a very expressive symbol of the old narrow, intense, and short-sighted commercialism which scorned and hated amenity, saw power and progress in nothing but the steam-engine, cultivated ugliness on principle, and regarded any advocacy of beauty as a sign of insanity, or a wicked and dangerous heresy against the sanctified dogma of Utilitarianism. Such mean and narrow conceptions are fading away with the Early Victorian tradition; and even a London County Council alderman can see that "nothing is more symbolical than a bridge. It is a safe passage from shore to shore, and, as St. Augustine said, a war is (or should be) a transition from a lower state of peace to a higher. A fine bridge at this spot would almost be a small part of a European policy of peace, union, and good will. The foreigner would alight at a noble and an artistic—it is to be hoped—station on the south shore, and as he drove in his taxi over a wide and lofty and well-adorned bridge would see St. Paul's to his right and Westminster to his left, and all the fine and varied edifices on the north shore. It would be the most impressive entrance to a capital city in the world." We cannot believe that London will be so profligate as to throw away so fine an opportunity.

* * * *

London, indeed, now stands committed to the larger view; and, indeed, Captain Swinton declares that the House of Commons, by rejecting the railway company's Bill, has assumed "the heavy responsibility of itself tackling the widest town-planning reconstruction which the Old World has ever known or is likely to know." Captain Swinton should have broken this news more gently to so notoriously timid a body as the House of Commons, which, with the progressive speed of the snail, has the same capacity for drawing in its horns. True, Captain Swinton's fine vision fascinates whom it does not frighten. One's heart warms to him for outbursts like this: "Let us realise that in no centre of population on God's earth is there any spot comparable in beauty and accumulated history and sentiment with the square mile set about that curve of the River Thames. Before I die I hope to see ranged in it not only the finest bridge in the world, but, below ground, a quite perfect system of traffic communication, electric and interchangeable, with perhaps a new market; and above ground, a Shakespeare Theatre, a new London University, and—last, but not least—jutting boldly out and soaring aloft where the dirty old station now stands, some architectural triumph—name it how you will—an expression of victory, memory, and peace. I trust the House of Commons understands that Trafalgar Square, Covent Garden, the Adelphi, and at least some 200 acres of land south of the river, should be considered in its reconstruction proposals." Although this is the language of enthusiasm, it is for the moment less likely than ever before to be discredited on that account, because it has been recently discovered that, as Mr. Gilbert Chesterton might say, your visionary is in reality the most practical-minded of persons; while Æsthetics is merely the art of "keeping things tidy," monumental building a glorification of business, and town-planning a broadening of the avenues to profit! But profit need not be restricted to its old sordid sense; for "what shall it profit a man if . . . he lose his own soul?"

No custom of the trade, however well established, is safe from challenge. In an action tried in the Nisi Prius Court at Dublin, counsel argued at considerable length whether or not a builder who had undertaken work for which he had neither tendered an estimate nor signed a contract was entitled to payment by instalments as the work proceeded. In spite of the absence of an agreement, the jury found that the contractor was entitled to payment by instalments. If they had decided to the contrary, they would have set themselves in opposition to a custom that is not only common and general, but is rooted in reason. Its abandonment would make building as a business almost impossible, and would set up the false theory that a builder is a banker lending money without interest to the building owner for the duration of the contract. No such ridiculous contention was raised in the Dublin case, where the whole trouble arose through the absence of a written contract, and from the non-employment of an architect, whose agreeable function it is to sign certificates for payment as the work proceeds. Who else could fairly and impartially indicate the psychological moments for handing over to the builder the wherewithal to pay his workmen's wages? This case, in fact, has for its sole interest its illustration of the folly of eliminating the architect even where the job is small. An architect's fee would have been infinitesimal in comparison with the costs of litigation, and the parties would have been spared the worry of dispute and the anxieties attending legal process.

* * * *

Much correspondence on "Huge Vicarages" is appearing in the "Guardian." "A great vicarage, a great evil," seems to be, in effect, the general verdict. This is qualified, however, by "Father of Seven," whose observation on the subject recalls that of the Malthusian who noted that while there is plenty of bread in the land, and there are also plenty of mouths to eat it, the bread is in one place and the mouths are in another. So it is with the vicarage and its denizens. There are not too many big vicarages, but the big vicarage too often falls to the married vicar with a small family, or to the bachelor with none at all, while the little vicarage goes to the "Father of Seven," who is then conscious of a certain reservation when he has to recite "Blessed is the man that hath his quiver full." It is a difficult position. Vicars, we take it, are not appointed to their livings on the numerical strength of their families, although possibly some of them may occasionally get preferment for less conspicuous qualifications. With these purely domestic considerations, however, the stranger intermeddleth not. What touches us more nearly is the question of dilapidations, which naturally enough has assumed an important place in the discussion. Architects are very well aware that the burden of upkeep to which most rectors or vicars are subject is often so hard to bear that it is liable to be shirked. As the house grows older, each successive occupant finds the burden more onerous, and it presses very unfairly on the custodian of a building that is crumbling to decay. Tender-hearted surveyors have been known to under-estimate rather seriously the cost of putting the vicarage in repair in readiness for a new inmate, and it is suggested that these pious frauds would be rendered unnecessary if the system which is really responsible for them were abolished.

* * * *

"A Rector" makes the bold but sensible proposals that all rectories and vicarages should become the property of the Diocese; that in each Diocese a Dilapidations Commission should be set up; and that all dilapidations, except ordinary internal decoration, should be paid for out of a general Dilapidations Fund. This is surely a more excellent way than leaving the matter to individual caprice, incompetency, and impecuniosity. Our chief interest in the matter may as well be quite frankly stated. It is this: That whereas under the present wretched system the architect and builder are called in only at the eleventh hour, and are then required only to cobble and botch, with results that are unsatisfactory and even exasperating to all concerned, orderly and systematic attention to repairs would, on "stitch-in-time" principles, be in the long run economical, would preserve the architect and the builder from the humiliation of botching, while giving them a fuller and fairer measure of satisfactory business, with the chance of taking a legitimate pride in their work, and would make every vicarage what only some of them are now—an example to the laity in the highly important duty of setting one's house in order.

* * * *

In the unofficial list of casualties published in the "Times" of last Saturday there are three names of architectural interest. Second-Lieutenant Lawton S. Ford, of the Queen's Royal West Surrey Regiment, who was killed on July 1, was the only son of Mr. and Mrs. Lawton Ford, of Esher. He was educated at a private school in Bexhill, and after passing the London University Matriculation examination he entered the Architectural Association Schools. On the outbreak of the war he joined as a private in the Army Service Corps Motor Section, but in April, 1915, obtained a commission in the West Surrey Regiment, and went to France in the following September. He was twenty-six years old. Second-Lieutenant H. W. Pegg, of the East Surrey Regiment, who died of wounds on July 4, was the youngest son (he was only in his twentieth year, having obtained his commission when he was eighteen) of Mr. H. Carter Pegg, F.R.I.B.A., of Westminster and Thornton Heath, Surrey. Captain John Stewart Powell, of the Hampshire Regiment, who was killed on July 3, aged thirty-one, was the third son of the late William Henry Powell, F.R.I.B.A., and of Mrs. Powell, of St. Leonard's-on-Sea. He had been on the staff of the Middlesex County Council for more than ten years, and, getting leave of absence early in the war, obtained his commission in October, 1914, was promoted lieutenant in April, 1915, and captain in September of the same year, going to the front in the following December. Although, strictly speaking, only the first of these names—Mr. Lawton S. Ford—may be correctly added to the lengthening architectural roll of honour, the others, it will have been noticed, are those of the sons of architects, and the profession is proud to claim kindred with them.

HUNGERFORD MARKET.

THE water-colour drawing by Charles Fowler reproduced on page 13 recalls Hungerford Market. The company which rebuilt the old market in 1832-3 proved singularly unsuccessful, but their artistic enterprise was most praiseworthy. The site, being that now occupied by Charing Cross Station, was on an incline, and Fowler took the fullest advantage of this fact. On the river bank was a quay from which the lower quadrangle or fish market was approached. This was enclosed by a double tier of colonnaded galleries, the columns being of the Doric Order and of granite, similar to those employed by Fowler a few years earlier at Covent Garden Market, and still existing. Double flights of steps led up to the portico of the general market, which consisted of three parallel halls, the centre one of greater height and lit by a clerestory. These halls had open timber roofs and were separated only by arcades. Beyond, towards the Strand, was the upper quadrangle, also with Doric colonnades. In 1845 Hungerford footbridge was erected, and the upper galleries of the market formed the northern approach to it. It might be thought that this would have made the fortune of any market, but presumably the toll caused the traffic to be small. In 1862 both market and bridge were demolished.

HERE AND THERE.

THANKS to those who have fought so well in the trenches of the "Observer," and elsewhere, £167,000 shall now not be spent in tinkering with Charing Cross Bridge—the iron centipede that stands ungainly in Thames water, the "red oxide Behemoth"; there shall be no adding to its undesirable bulk, no strengthening of it to live for untold years to come; and the throwing-out of the Bill means, if it means anything, that this bridge must die the death, that Charing Cross Station must go, bag and baggage, to the Surrey shore, and that we must have a splendid new road bridge at this point, so badly needed midway between Waterloo Bridge and Westminster; and, further, and most important of all, that when the new road bridge is built it must form part of a grand civic lay-out with *places* at each end, and a new and worthy Charing Cross Station on the south side. We ought also to have the boulevard somewhere in the scheme, with the little trees and the café tables that would be so welcome in an open-air café-less London. There must be seats where we can sit leisurely, watching the passing life. In this respect Amsterdam is the worst city I have yet encountered; never a public seat can you find in the maze of canal-streets, and in sheer desperation you are driven into the Post Office to write imaginary letters on very real and welcome benches. Let the reader think of Paris, by way of contrast. Paris is the pleasantest of places to wander in; London is far dustier and dirtier, but it need not be so, and the new London, laid out in the larger manner which this Charing Cross scheme suggests, would not bring that weariness to soul and body which is at present unhappily the case.

* * * *

How the superlative is seized upon for public consumption. It is a big theatre; it must be the biggest—best of all, the biggest in Europe; the most costly hotel in the world; the highest flag-pole on two Continents. So I am not surprised to come upon "London's Ugliest Church," in the "Westminster Gazette." Of course it is that St. John's which is an island of a church surrounded by M.P.'s and other flourishing individuals who have occupied the Georgian houses of Smith Square, Westminster. Ever since Ruskin said it resembled a chair with its legs in the air, St. John's seems to be accepted as the awful example. And having been called bad names, and ridiculed as the acme of ugliness in church architecture (though London has far uglier churches—modern churches, alas, among them), there come along, inevitably, those queer people who like, in all things, to contradict the orthodox. These proceed to say that Archer's pile is not really bad; it is, in fact, quite interesting; a writer in the "Westminster" even says that "although the effect at a distance is miserable, the architectural details are admirable, and, if only two towers are seen, the æsthetic result is good." To me, however, the reverse seems to be the fact: St. John's is well enough from a distance, just as many a dull building looks almost attractive at dusk, when the unlucky efforts of the architect are smoothed out in a kindly haze; but to say that St. John's is "admirable" when you get close up to it, close enough to see those tremendous keystones and all the rest of the Brobdingnagian concoction, is a heresy to which I will never subscribe. Thomas Archer learnt all he knew from Vanbrugh; but he lacked his master's cleverness, and St. John's is merely dull and gaunt without being clever.

* * * *

Being now Allies in a common cause, we should know as much as possible about one another. With France we have had a long and honoured acquaintance, but of Russia we know as yet very little; how many architects, for instance, before Mr. Richardson's articles appeared recently in the "Architectural Review," had any conception of what Russia could offer in the way of fine classical architecture, how many were aware of the existence of such a masterpiece as Thomas de Thomon's Bourse in Petrograd? With Italy the case has been different: Italian art and architecture of the past has been our constant study, but in concentrating attention upon this we have overlooked the modern art of Italy. Those therefore who find themselves in the vicinity of Leicester Square will do well to spend a shilling at the Leicester Galleries, where they will find a very remarkable exhibition of War pictures and cartoons—vivid, biting, sometimes horrific, satires, which gain an additional interest when we know the conditions under which the drawings were made. The caricature, the cartoon, and the illustrated postcard played a large part in bringing Italy into the War. Let me quote from the prefatory note to the exhibition catalogue: "In the streets of Rome the crowd was wont to gather before the caricatures that satirised the event of the day. On the morrow, these caricatures were spread among the public in postcard form. The enemy felt the weight of these blows and sought to stay them. The sturdy Galantara, who fought the good fight in the 'Asino,' was prosecuted by the enemy Embassies for his cartoon, 'The Two Butchers.' Golia, who edited the satirical journal, 'Il Numero,' was threatened personally by the German colony of Turin. His answer admitted of no reply. Martini's 'Danza Macabra' evoked violent enemy protests, but, nothing daunted, the Italian artists continued their work in the 'Travaso,' the 'Guerin Meschino,' the 'Numero,' and the '420.' Then appeared the admirable album 'Gli uni e gli altri,' in which were collected the works of the best caricaturists in order to deal a final blow at German influence. The first edition was sold out at once. Shortly afterwards Italy joined the Allies. On that day, many Italian artists, rightly proud of their work, exchanged the crayon for the rifle. Ventura, Codognato and others, fighting on the Isonzo, turned to account their hours of leisure by depicting life at the front and the fierceness of the mountain warfare. Others like Sartorio have suffered the hard fate reserved for prisoners of war. Others, again, died gloriously in the heat of action. Oppo, after a splendid campaign in the 'Idea Nazionale,' joined the famous 130th Infantry, which was decimated on July 7, 1915. Severely wounded (having lost the use of one arm and with his jaw bone smashed) he was among the five survivors; but he has since resumed his place in the 'Idea Nazionale,' and wages the same war for the same ideal. Yet others, like Sachetti, celebrate the valour of Alpini and Bersaglieri against the sinister knights of Kultur. Thus, the artists of Italy help to maintain public spirit at the high level of their own. Older men, already famous, like Pogliaghi, have created an imperishable record of their country's deeds by illustrating the gigantic struggle among the mighty Dolomite peaks. A Roman journal has rightly said that the artists of Italy have been worth a machine-gun division to the Allied cause." A visit to the Leicester Galleries will make this plain. One comes away from the exhibition with an increased repugnance of the Prussian and his methods, none more dastardly than we see in Corbella's cartoon of Death with a lantern showing us the prostrate white-robed body of Nurse Cavell and her officer-murderer, callous and disdainful.

* * * *

The name of Dr. Watts at once comes to mind, but it was an American lady, I believe, who provided for us that little rhyming maxim about "little drops of water." Now we have a new version, from Canada, an architectural version which runs: "Little beds of flowers, Little coats of paint, Make a pleasant cottage Out of one that ain't."

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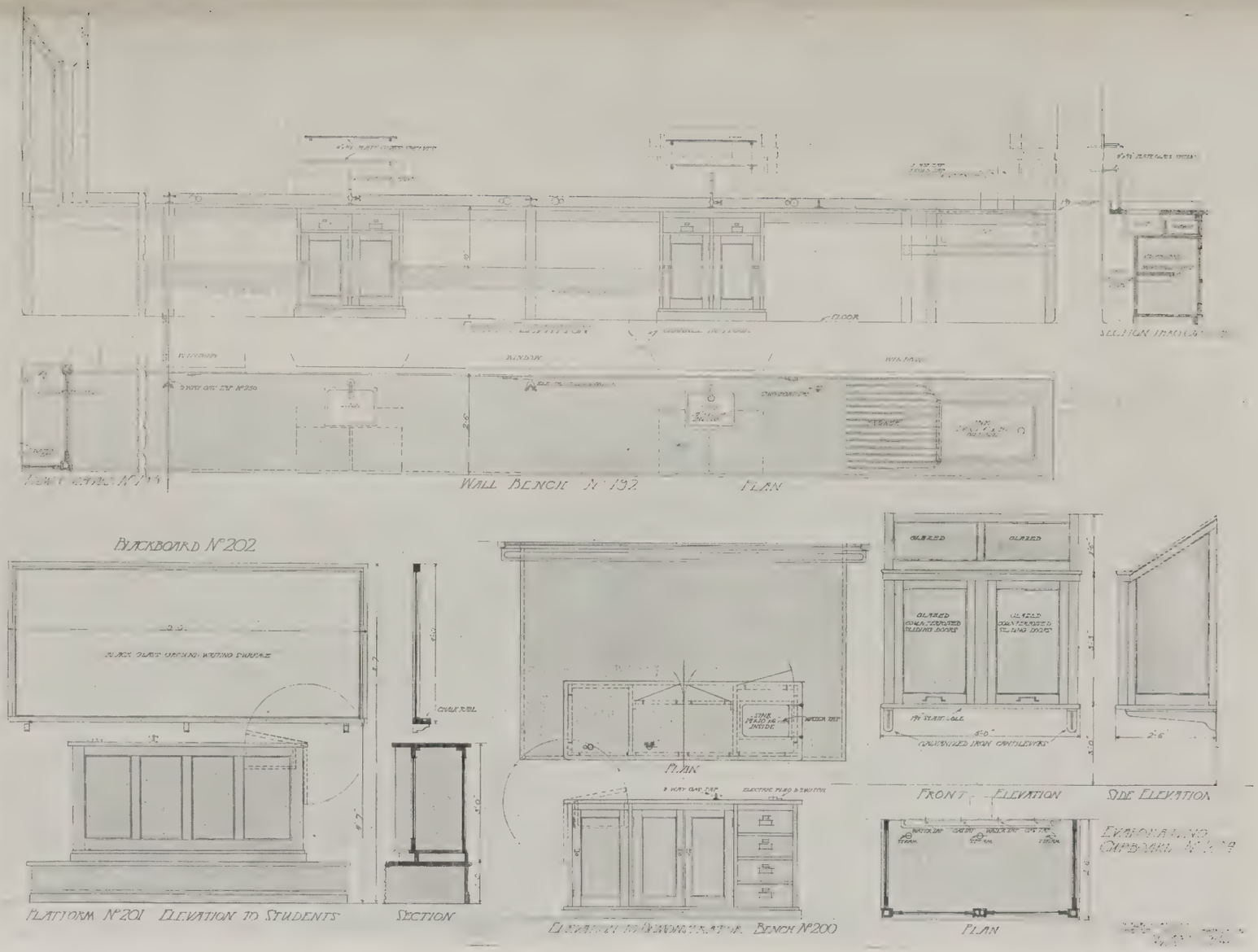
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SCIENCE AND TECHNICAL BUILDINGS. V.—PHYSIOLOGY LABORATORY, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.: DETAILS OF FITTINGS.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

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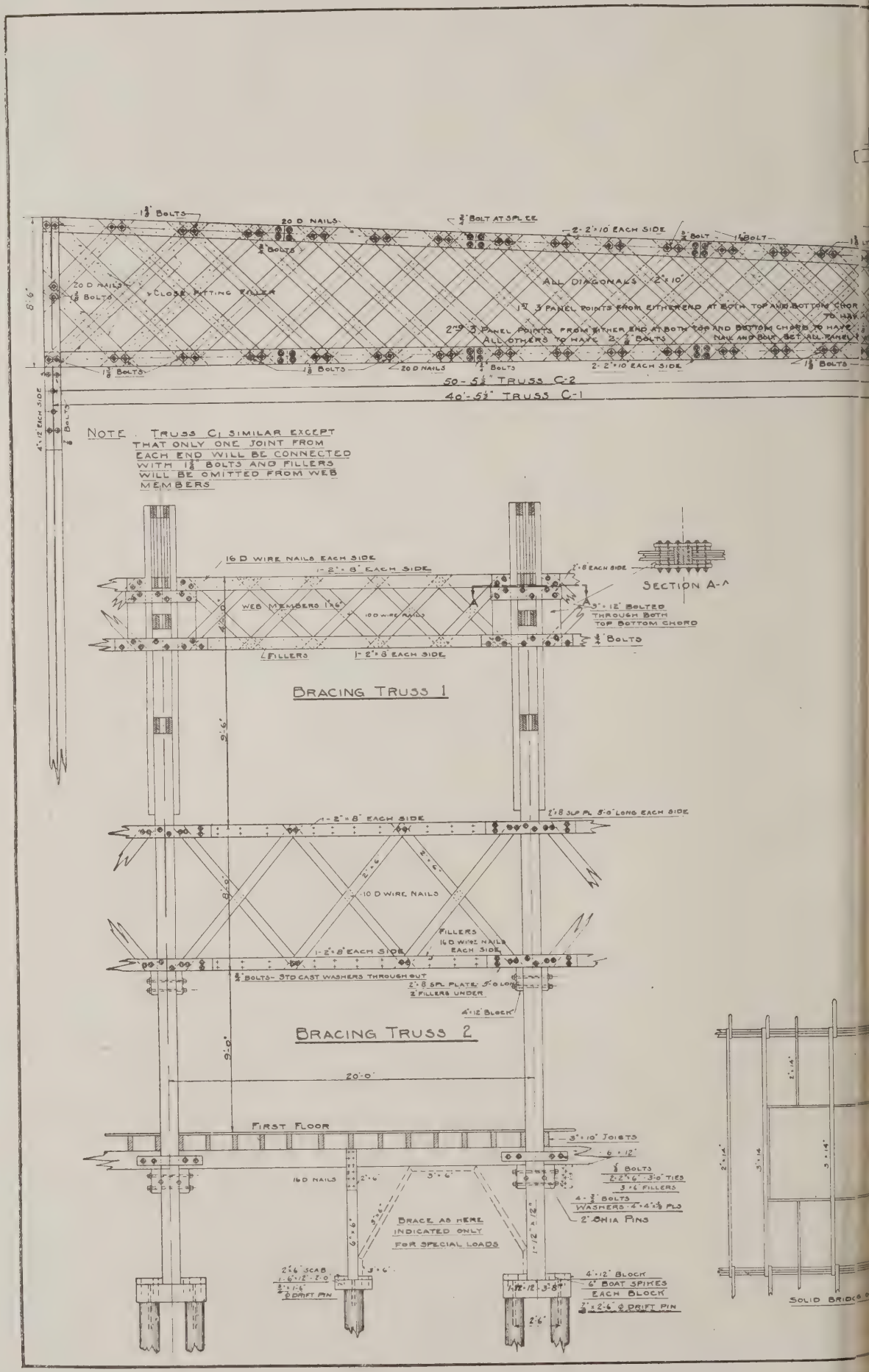


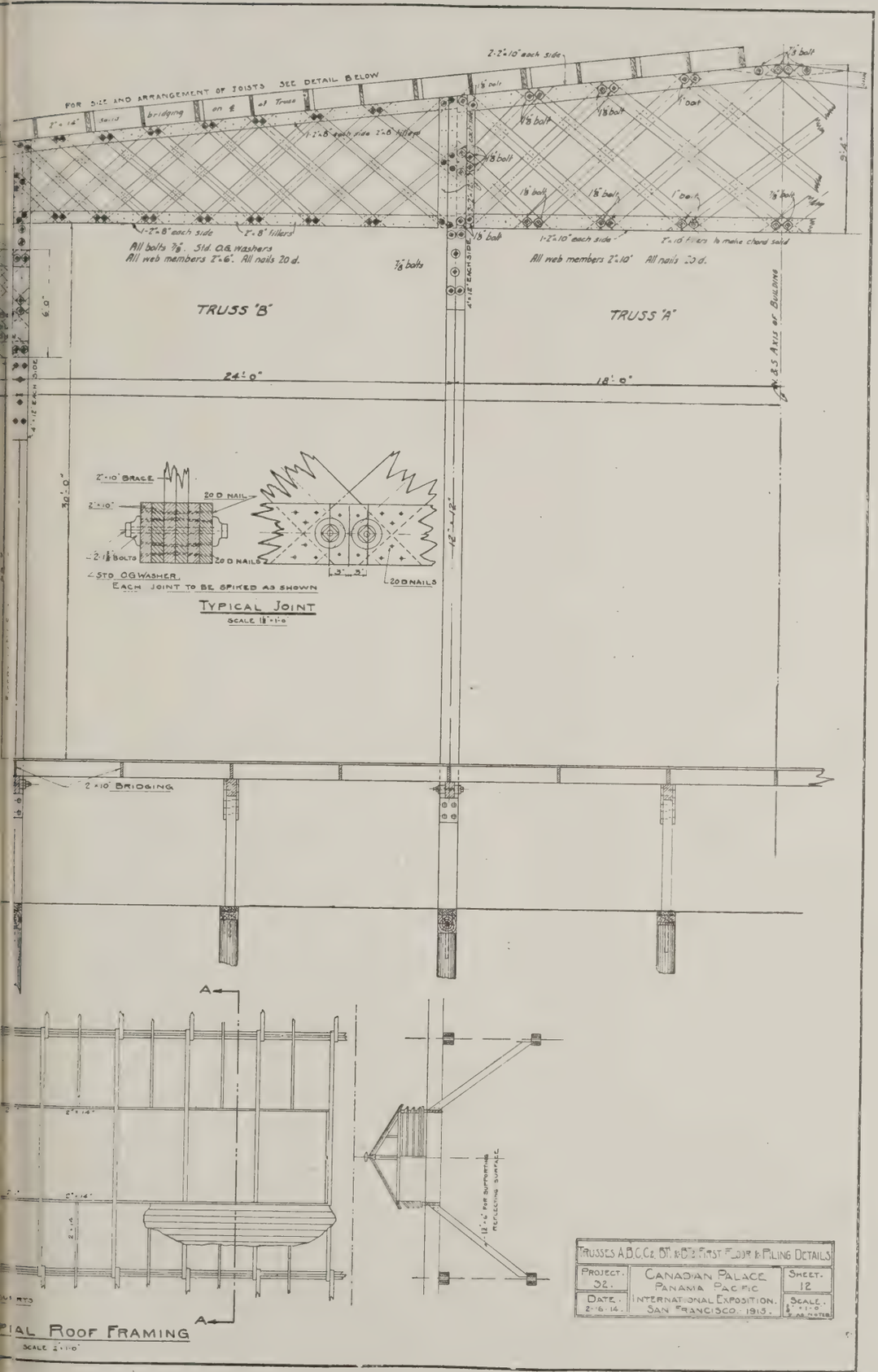
SCIENCE AND TECHNICAL BUILDINGS. IV.—PHYSIOLOGY LABORATORY, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.

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1⅛" BOLTS
20 D NAILS
¾" BOLT AT SPL. EE
2-2"×10" EACH SIDE
⅞" BOLTS
1⅛" BOLT
8'-6"
20 D NAILS
⅞" BOLTS
CLOSE FITTING FILLER
ALL DIAGONALS 2"×10"
1ST 3 PANEL POINTS FROM EITHER END AT BOTH TOP AND BOTTOM CHORDS TO HAVE
2ND 3 PANEL POINTS FROM EITHER END AT BOTH TOP AND BOTTOM CHORDS TO HAVE
ALL OTHERS TO HAVE 2-⅞" BOLTS
NAIL AND BOLT SET ALL PANELS
1⅛" BOLTS
1⅛" BOLTS
20 D NAILS
½" BOLTS
2-2"×10" EACH SIDE
1⅛" BOLTS
50-5¾" TRUSS C-2
40'-5¾" TRUSS C-1
4"×12" EACH SIDE
⅞" BOLTS
NOTE. TRUSS C1 SIMILAR EXCEPT THAT ONLY ONE JOINT FROM EACH END WILL BE CONNECTED WITH 1⅛" BOLTS AND FILLERS WILL BE OMITTED FROM WEB MEMBERS
16 D WIRE NAILS EACH SIDE
1-2"×8" EACH SIDE
WEB MEMBERS 1"×6"
100 WIRE NAILS
FILLERS
1-2"×8" EACH SIDE
¾" BOLTS
1"×8" EACH SIDE
SECTION A-A
3"×12" BOLTED THROUGH BOTH TOP BOTTOM CHORD
BRACING TRUSS 1
2'-6"
1-2"×8" EACH SIDE
2"×8" SPL PL 8'-0" LONG EACH SIDE
8'-0"
2"×6"
2"×6"
10 D WIRE NAILS
FILLERS
16 D WIRE NAILS EACH SIDE
1-2"×8" EACH SIDE
⅞" BOLTS- STD CAST WASHERS THROUGH OUT
2"×8" SPL PLATE- 5'-0" LONG
2" FILLERS UNDER
4"×12" BLOCK
BRACING TRUSS 2
9'-0"
20'-0"
FIRST FLOOR
3"×10" JOISTS
6"×12"
16 D NAILS
2'-6"
3'-6"
⅞" BOLTS
2-2"×6"-3'-0" TIES
3"×6" FILLERS
4-¾" BOLTS
WASHERS-4"×4"×⅜" PLD
2" OHIA PINS
BRACE AS HERE INDICATED ONLY FOR SPECIAL LOADS
6"×6"
1-12"×½"
2'-6" SCAB
1-6"×12"-2'-0"
2-1"×6"
⅞" DRIFT PIN
3'-6"
4"×12" BLOCK
6" BOAT SPIKES EACH BLOCK
¾"×2'-6" ⌀ DRIFT PIN
2'-6"
2'-14"
3'-14"
3'-14"
SOLID BRIDGE



UILDING, PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO:

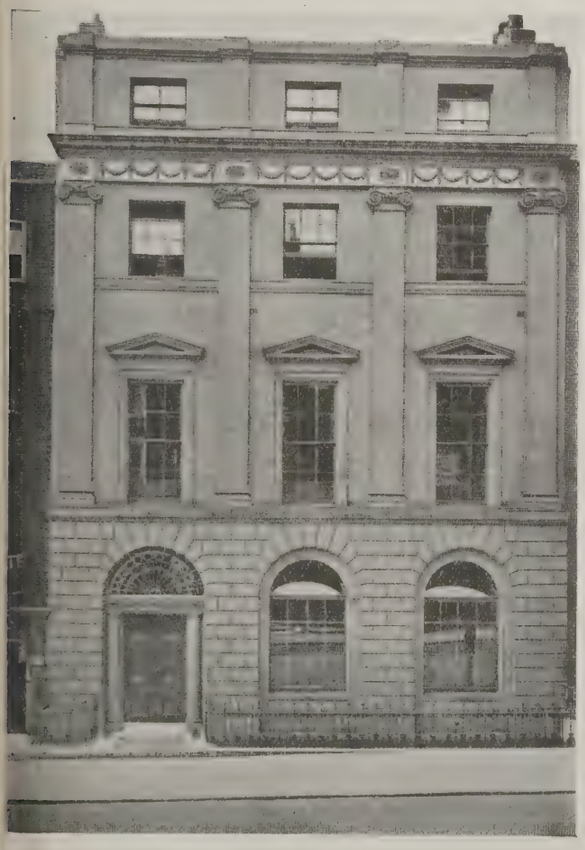
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THE PLATES.

The R.I.B.A. Façade.

MANY readers in the provinces, members of the Institute, who do not happen to be familiar with No. 9, Conduit Street, will be particularly interested in this plate, while those who are frequent visitors to the R.I.B.A. premises, but have never perhaps stopped to study the façade, will find a new interest in it. "Ubique," in our columns some time ago, registered a protest against a notion for sweeping away this front and putting something more "modern" and "up-to-date" in its place. His advice, with which we are entirely in accord, is to leave well alone, for though a piece of applied architecture in stucco (actually in "Higgins cement," of which we know nothing) this is a scholarly, dignified, and appropriate design, marred only by the loss of some of its original features—in particular its window bars. We give below an illustration showing what the appearance of the front would be if these bars were replaced, and if the blank area over the doorway were filled in with a fanlight of suitable character. Such alterations could be carried out at small cost, and we suggest to the Council of the Institute that this matter might receive their attention after the War. At the same time the existing area railing, of very poor design, might be replaced by a railing more in keeping with the character of the general design, and more enlivening as an example of craftsmanship in iron. Originally this was a private house, built in 1779 for a Mr. Viner from the design of James Wyatt. The premises were acquired by the R.I.B.A. in 1858. The first rooms of the Institute, engaged early in 1835, were, as the "Kalendar" says, "at 43, King Street, Covent Garden, better known as Evans's Hotel, a building said to have been designed by Inigo Jones, and immortalised by Thackeray in 'The Newcomes,' in the description of 'The Cave of Harmony.' In 1837 rooms were taken at No. 16, Grosvenor Street, where for twenty-two years the work of the Institute was carried on. The necessity of acquiring larger and more convenient premises led eventually to the formation of the Architectural Union Company, which was established, in the terms of its articles of association, 'for the purpose of providing accommodation for the different societies connected with architecture, and especially for the Royal Insitute of British Architects and the Architectural Exhibition.' Sir Charles Barry was chairman of the company, Mr. (afterwards Sir William) Tite deputy chairman, and a number of prominent members of the Institute were directors. The then president, the Earl de Grey, presented to the Institute twenty shares in the company free of all further calls. The Architectural Union Company, having purchased the property No. 9, Conduit Street, constructed the Galleries (afterwards known as the Conduit Street Galleries) at the rear of the house. The Institute was assigned the entire suite of apartments on the principal floor (the present Library rooms), with separate staircase, a large room for casts, models, etc., and apartments for an attendant in the basement and upper floors. The premises were formally opened by Earl de Grey on November 7, 1859."



THE R.I.B.A. PREMISES, 9, CONDUIT STREET, LONDON, W., WITH SUGGESTED WINDOW BARS AND FANLIGHT.

Two Late Georgian Houses.

High Street, Marlow, is an attractive example of a main street in an English country town, lined with houses for the most part of eighteenth-century date—quiet Georgian houses. The one shown on the plate, a doctor's house, is perhaps what might be called "severe," but though there is an entire absence of decorative ornament, the porch and the main entrance doorway (at present painted red), the flat arches in light brick over the windows, and the strong but not overbold cornice, give a marked architectural quality to the front. It is the type of house which McKim might have given us in a modern piece of building. The little house at Starr Cross strikes quite a different note. Here we have a West Country version of Late Georgian; a sunny lively front, with its white cement surface, its elegant shutters to the ground-floor windows, and its delightful little balconies above.

Physiology Laboratory, King's College for Women, London, W.

This is on the first floor of the building, recently completed from the designs of Messrs. Adams and Holden. The laboratory is well lighted from both sides. There are three long benches, with sinks, racks for bottles, store cupboards and drawers, and on the north side a bench extends for the whole length of the room. At one end of the laboratory is the demonstrator's bench, with blackboard on the wall behind, and adjacent to this are an evaporating cupboard and a store cupboard for chemicals. The fittings are of oak and teak; the details of their arrangement can be studied on the plate which we have made from the architect's working drawing. In this laboratory, which is one of several in the building, the analysis and properties of foods are dealt with.

Canadian Pavilion, Panama-Pacific Exposition.

Some particulars of this building are given on the next page.

ARCHITECTS AND MILITARY SERVICE.

ALL those architects desirous of joining the 23rd County of London Regiment will be applied for "en bloc" on Saturday, July 15, provided they will meet together at the Regimental Headquarters, 27, St. John's Hill, Clapham Junction, on this date, at 3 p.m. Only men passed by a medical board as fit for general service can apply.

CANADIAN GOVERNMENT BUILDING, PANAMA-PACIFIC EXPOSITION.

This building was erected by the Canadian Government for the purpose of housing their Government Exhibit at the Panama-Pacific Exposition, held at San Francisco in 1914. The building covered an area of nearly two acres. There were entrances on three sides flanked by bronze lions and supported by marble columns, and at each end of the building was a spacious loggia 20 ft. wide. The main entrance hall, 80 ft. long by 40 ft. wide, gave access to the three main Courts (each 220 ft. in length and devoted respectively to fauna, minerals, and cereals), the Water Power Exhibit and the Information Bureau. The west annexe formed a separate Court with an exhibit of fruits of the Dominion. From the entrance hall two staircases led to the lounge and reading rooms, smoke rooms, and offices.

The site of the building was on reclaimed land on the Bay of San Francisco. The foundation necessary consisted of 980 piles driven to an average depth of 50 ft. Upon this was constructed the bed frame of the building in 12 in. by 12 in. timbers.

Following on the general lines of the Exposition, the main construction consisted of timber framing throughout covered externally from ground level to the top of the plinth with expanded metal and cement stucco, the remainder of the structure being in fibrous plaster. The exterior elevation was treated to represent stone—the base in grey granite, the remainder of the front in imitation Travertine stone, with columns in marble.

The construction was much simplified owing to the facility with which timber could be obtained in convenient sections and of practically any length. The timber used throughout was Oregon pine, well prepared and practically faultless. The main supporting framework was of 12 in. by 12 in. timbers, the principal posts being 45 ft. long in one length. The roof was carried on lattice timber girders from 36 to 60 ft. in span (see double-page plate in this issue).

The lighting was arranged mainly by skylights, each having louvred ventilators fitted with movable shutters: this arrangement was found to keep the building perfectly cool in the very hottest weather.

One special feature of the building was a basement 10 ft. high in which the whole of the packing cases in connection with the Exhibit were stored. Workrooms were also provided in the basement for renewing exhibits and in connection with the general administration.

The heating throughout to offices was by means of hot-water radiators from a central gas heater. The water supply, drainage, and electric lighting were all taken from the main Exposition supply.

The erection of the structure was commenced in March, 1914, and was completed ready for installation of the Exhibit in September of that year. The whole structure was finished in every detail, and was one of the very few buildings that were ready for the opening day.

The complete installation of the building, from the foundations to the opening, was carried out by Messrs. Humphreys, Ltd., of Knightsbridge, London, S.W., the only British building contractors at the Panama-Pacific Exposition.

CHARING CROSS BRIDGE BILL REJECTED.

On July 3, on the motion for the second reading of the South-Eastern and London, Chatham, and Dover Railways Bill,

Sir W. Essex moved the rejection of the Bill. He objected to the alterations which it was proposed to make. The railway was hopelessly cramped by the limitations of the Charing Cross site and the crossing of the river at that point. A larger and

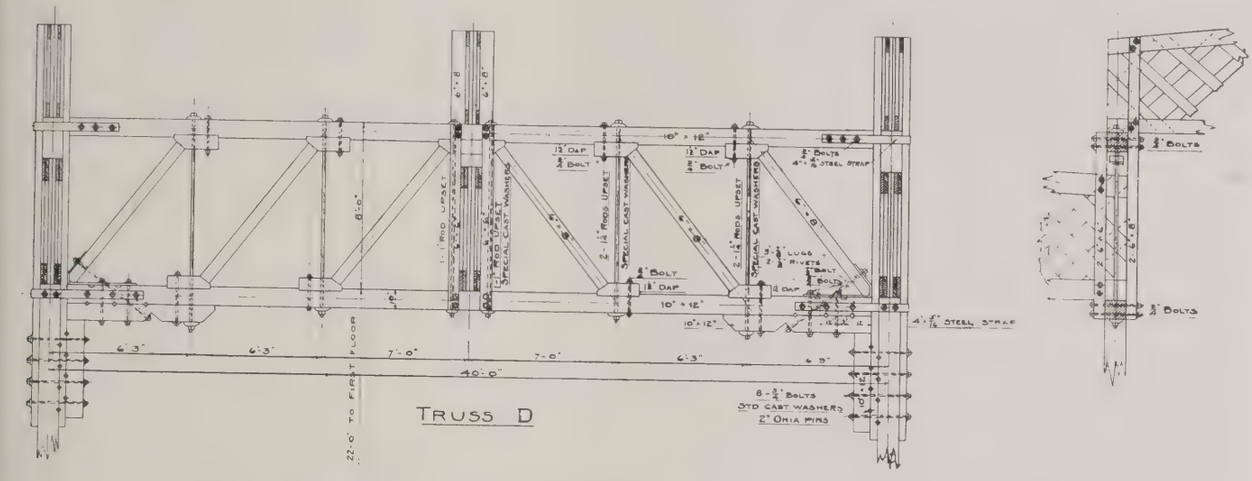


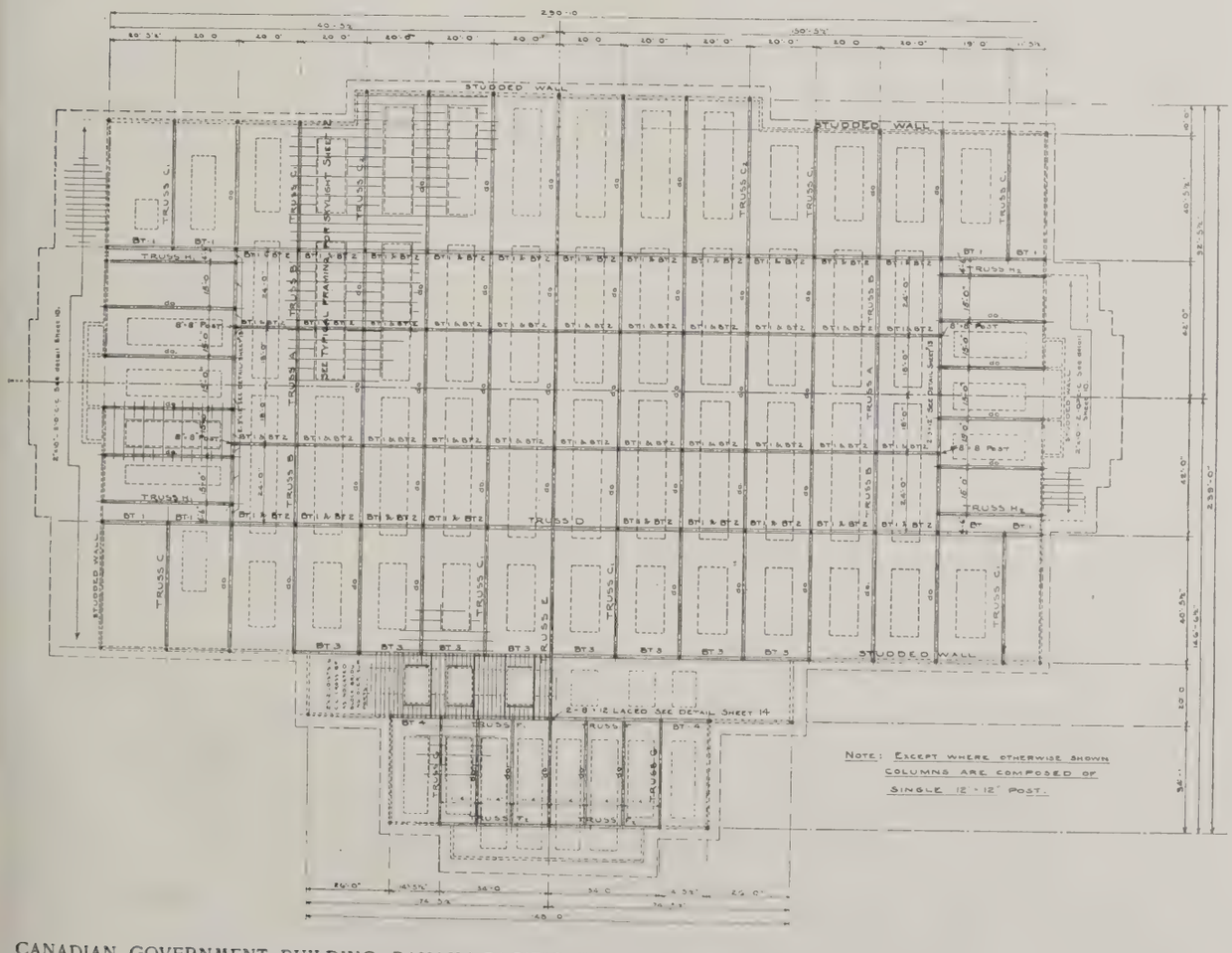
CANADIAN GOVERNMENT BUILDING, PANAMA-PACIFIC EXPOSITION.

wholly adequate site could be found on the other side of the Thames. The proposal of the Bill was to place between a number of the older vertical columns which supported the transverse girders of the bridge great blocks of masonry or brickwork, which would jut out into the river, seriously curtailing the fairway for navigation. The cantilevers contemplated were too much even for the Port of London Authority. They insisted that these should be made to look like arches; so they were to look like arches but to be cantilevers. He believed public opinion was rapidly veering round to the project for making a Channel tunnel, and adequate accommodation for the traffic would be impossible at Charing Cross. After maintaining that the proposed scheme would worsen the bridge from an artistic standpoint, he asked the House to consider whether a new and Imperial bridge ought not to be erected, a structure which would not only add gloriously to the dignity and beauty of our chief city, but which would also commemorate our victories and the deeds of our heroic dead.

Mr. Stuart-Wortley, who spoke in support of the promoters' case, agreed that the present bridge was very ugly. He insisted, however, that the matters in dispute ought to be considered by a Select Committee before the House came to a final decision upon the measure. For his part he did not see how the Bill would stand in the way of a scheme for the erection of a new bridge. In fact, it did not raise the main question of the Surrey-side station scheme; it left the field free. The proposal was only to strengthen the bridge, not to widen it, and a moderate sum only was to be expended. He disputed the statement that the work must inevitably take six years.

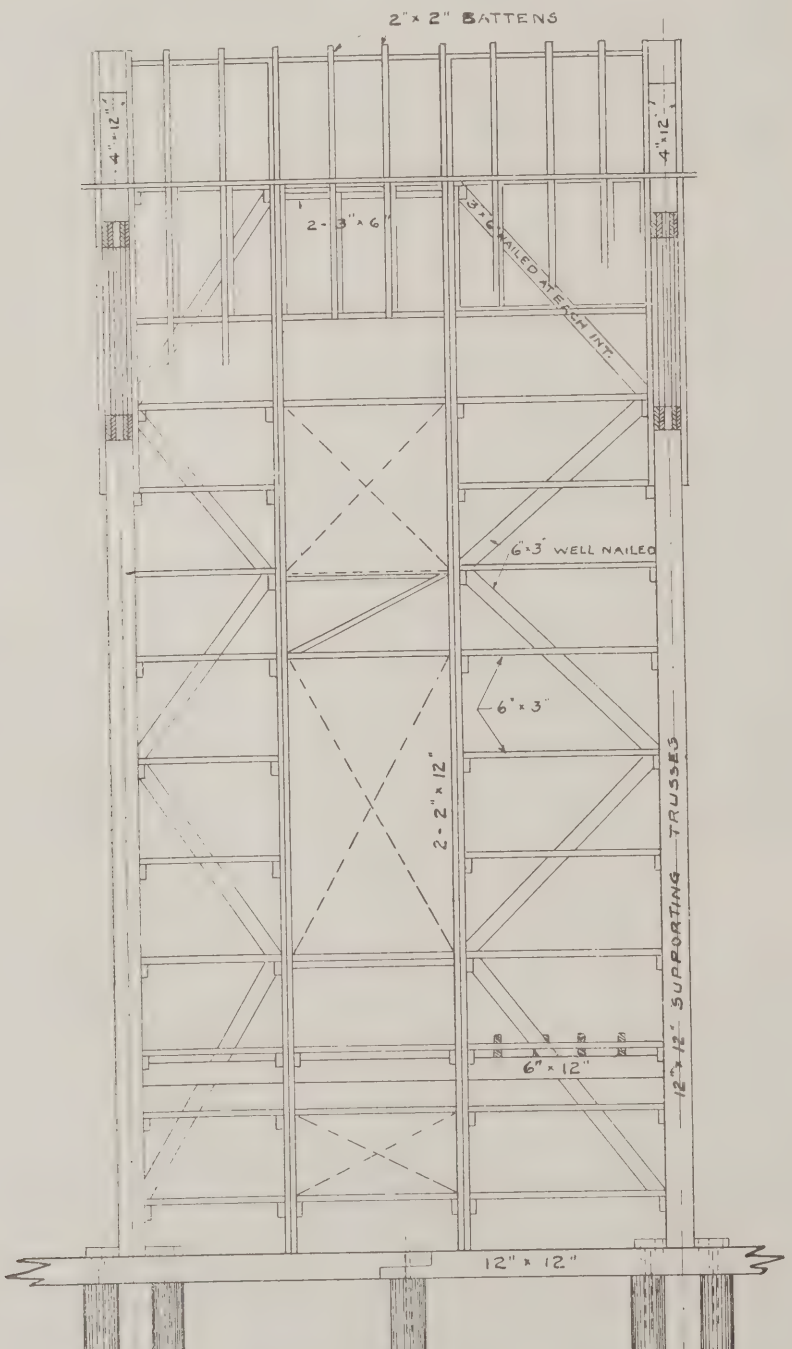
Mr. John Burns said that if we had in this country, as in Germany, Austria, France, or Belgium, a Minister of Arts or an Office of Works vested with the duty and responsibility of guiding Parliament in these matters, this Bill would never have passed the examiners. All the public





CANADIAN GOVERNMENT BUILDING, PANAMA-PACIFIC EXPOSITION: ROOF FRAMING PLAN AND DETAIL OF TRUSS.

bodies were agreed that the Bill ought to be rejected; the architectural profession and the Royal Academy, as well as the London County Council and other bodies, were against it. Public opinion, as expressed by daily and weekly newspapers, had nothing to say in support of the measure. If they were allowed to spend £167,000 in carrying out their proposal, the company would be more firmly anchored in their present position. This would be a great injustice to London, which, he declared, had displaced Paris as the cynosure of European eyes. But Charing Cross bridge never attracted anybody. Wordsworth would never have written his famous lines from Westminster Bridge, "Earth hath not anything to show more fair," if Charing Cross bridge had intervened. Now was the time and the hour when the local authorities and the railway company should confer together with a view to substituting for the present bridge the great scheme associated with the name of Sir Aston Webb. He held that the London County Council, in co-operation with other bodies, should spend a million on a magnificent bridge of 120 ft., and that the company should be allowed to sell the surplus land on the north side, and the money derived therefrom should go towards their building the new station on the Surrey side, with a river facade. If Parliament passed the Bill he feared the railway companies would become indifferent to the æsthetic claims upon them in regard to the structures they put up. In the event of the Bill being rejected, he could guarantee on behalf of the public authorities concerned that a way would be found for the erection of a station on the Surrey side without damnifying the railway company in the least, while relieving the Thames from a disfiguring monstrosity.



CANADIAN GOVERNMENT BUILDING, PANAMA-PACIFIC EXPOSITION: TYPICAL BAY OF EXTERNAL FRAMING.

Captain Pretyman said that on the first consideration of the matter the Board of Trade were inclined to the opinion that the work might well be postponed until after the war. But they had now come to the definite conclusion that the strengthening of the bridge was urgent. If the Bill were passed a long period must elapse before the work could be undertaken, owing to the number of preliminaries that would first have to be carried out. Moreover, the company had given an engagement not to make any demand upon labour or materia required for the prosecution of the work. As soon as the necessary labour and material were available they would ask the sanction of the Board of Trade to commence the work. The second reading o the Bill would not prejudice in the leas the great scheme of transferring the statio to the Surrey side. The railway company had had the power for a long time o widening the bridge. That power expire in August, but it could be extended by th Board of Trade. The opinion of the rail way company, as he understood it, wa that the widening of the bridge would no commit them to any opposition to th greater scheme. It was a purely tem porary arrangement to enable the bridge t carry the full traffic of the company, whic it was at present unable to do. Tha traffic already had to be reduced by 50 pe cent. owing to the condition of the bridge and if the Bill were rejected it would hav to be still further curtailed. It was obviou that there would be a great increase i traffic to the Continent when the war wa over. Regard must be paid to the publi convenience. It would be a great respon sibility for the House to say that it woul not allow this temporary structure to b strengthened, so that it might carry i present traffic, for fear of prejudicing th greater scheme. The view of the Board Trade was that the greater scheme wou not be in any way affected by the secon reading of the Bill. The Bill was not Government Bill; members were free vote as they pleased; but it was the du of the Board of Trade to advise the Hou in these matters, and in the opinion of th Board no reason existed for refusing send the Bill to a Committee for consider tion without prejudicing the great scheme in any way.

Mr. Horne opposed the Bill. Sir I Dalziel said that if the Bill placed a hindrance in the way of the greater schem he should not say a word in its favou But that question did not arise. Th House would be taking a great respon bility if it refused to allow the Bill to before a Committee, with the possibil of an accident taking place on the brid within the next year or two. Mr. Boyt hoped that, in view of the possibilities the future, the Government would n grant new building leases for their p perty on the east side of Trafalgar Squa Sir E. Cornwall hoped to see the gr improvement which had been referred carried out, but deprecated the refusal leave to repair a bridge which w dangerous. Mr. Hobhouse thought question of the safety of the bridge co only be satisfactorily settled by a Co mittee. Mr. Dickinson believed that people of London wished that Char Cross Station should be done away w and also Charing Cross bridge. Furth there was expert testimony that the brid was overstrained. Mr. L. Hardy pressed the opinion that it was impos for the people to dispense with Char Cross bridge at this moment, and that House should therefore content itself w demanding that it should be made safe

traffic. Mr. Rowlands contended that the present needs of the travelling public ought not to be ignored by the opponents of the Bill. Mr. Montague Barlow declared that the problem that presented itself could not be solved satisfactorily as long as the station remained on the Middlesex side of the river, while Mr. Hohler maintained that the Bill deserved further consideration. Mr. G. Terrell supported the Bill.

The House divided, and the numbers were:

For the second reading.....	25
Against	67
Majority against	—42

STATE ACQUISITION OF LAND.

In the House of Commons on July 5 Dr. Addison, who moved the second reading of the Defence of the Realm (Asquisition of Land) Bill, reminded the House that much public money had been spent by the Admiralty, the War Office, and the Ministry of Munitions in erecting such buildings as huts, aircraft sheds, factories, and storehouses for purposes connected with the war. This work had been done under emergency conditions, and there had been no time to investigate questions of title and other important matters. The general object of the Bill was to place the State as far as possible in a secure position in respect of expenditure incurred and to safeguard it against avoidable loss. It was necessary to guard against the contingency that at the end of the war, when the Defence of the Realm Act would lapse, the buildings and plant erected by various Departments might be forfeited to the owners of the soil.

The first clause would enable the Crown to continue for a limited time after the war in possession of land occupied during the war. The reason for this was that huts would still be required for the troops for some time after peace was declared, and that it would not be possible to clear hospitals and stores rapidly. In certain cases power would be given to the State to obtain an extension of its occupation for four years. If occupation of public or semi-public buildings, such as school houses and workhouses, was continued after the war there would be a right to compensation. The second clause provided for the removal of machinery or plant from land that was not acquired to some other place, so that the best use might be made of it.

He regarded the third clause as the most important, for it dealt with the class of cases in which it might be necessary to acquire land permanently. He pointed out that sometimes it might be a sheer waste of public money to remove buildings which had been erected at great cost. The power to acquire land under the clause relates to those cases in which land had been taken possession of by the Government for the purposes of the war, land on which buildings had been erected partly or wholly at the expense of the State, and adjoining and required for the proper enjoyment of the land so acquired.

The power did not extend to the acquisition, except by agreement, of land subject to any right of common, public parks, and recreation grounds, and so on, and since agreement, in this case, meant that the lord of the manor and the commoners would all have to be consenting parties, in the present alert state of public opinion it was difficult to imagine that any such agreement would ever be reached. There was every desire to make reasonable arrangements to meet cases of this kind. In many cases private parks had been given up for camps and parade grounds, and had been freely placed at the national disposal without qualification, and it would manifestly be unfair to take advantage of the Bill in any arbitrary or unfair manner against persons who had rendered patriotic service of this kind. Provision was made for the use of land acquired, whether as munition factories or otherwise, and also for sale, with the buildings upon it, so that the State might recover at any rate part of the expenditure on the buildings. There was no desire to make the Government land dealers or to make profit out of the land with which it was proposed to deal, but the power to sell was obviously necessary. The Railway and Canal Commissioners were to be used to determine questions arising under the Act. It was provided that until Parliament otherwise determines, all compensation and purchase money payable by a Government Department under the Act should be defrayed out of money provided by Parliament. In view of the tens of millions of public money which had been spent upon land acquired by the State, legislation of this kind was essential. He could well believe that in the disposal or management hereafter of the great properties referred to questions of first-class importance might arise in regard to which there might be material for substantial differences of opinion; but it was clear that they should aim at securing as far as was possible that the expensive establishments which had been erected and equipped with first-class machinery and up-to-date plant should be treated in such a way as to add to the manufacturing resources of the country. The House would agree that all those works which were the outcome of skilled and patriotic action should be available, without embarrassment and without delay, when the time should come to put them to the best use in that great effort of reconstruction which civilisation would have to make to repair the havoc of the war.

Mr. Molteno moved and Mr. Rawlinson seconded the rejection of the Bill. Mr. Brunner considered that in many respects the Bill asked for unreasonable powers. He asked for an assurance that the Government would not take any common land. Already four acres of such land had been seized by the War Office for use as a Mahomedan cemetery. Sir Frederick Banbury (City of London), after stating that the Association of Municipal Corporations strongly opposed the Bill, declared that the measure, which would do nothing to help us in the war, contained controversial proposals and was therefore a breach of the party truce. He thought the Government ought to withdraw the Bill and to introduce in its stead one of limited scope. Sir R. Adkins entered a *caveat* against interference with the rights of local authorities, urging that it would be very unwise and even disastrous were the provisions of the Bill as they stood applied to the property of such authorities.

The Solicitor-General said the points raised were mainly Committee points, though he recognised their great importance. The Bill was one to prepare for what would happen after the war. Without it, when peace came, the enormous expenditure upon many properties, amounting to many millions sterling, might at once have passed to the owners of land without any right to the Government at all, and then the House would have condemned them for neglect of duty. He quite agreed that the Government must act carefully and fairly. To public authorities the Government ought to give the fullest protection; to private claims full and fair compensation. In the case of commons, which excited such wide interest, the intention was that no land should be taken without the consent of all parties interested. It was said: "Even though you get the consent of the owner and all the commoners, we object to your taking the common." He had great sympathy with that view, and, in deference to it, the Government were prepared, at the Committee stage, to extend subsection 7 of Clause 3, either by leaving out the words "Otherwise than by agreement" or in some other way, so that they could not take common land by purchase. He hoped that would satisfy the most rigorous critics. They could not, however, give away the existing powers under the Defence Acts and the Military Lands Act; all they could do was to except commons from the present Bill. He was not satisfied that they ought to exempt entirely the lands of municipal corporations or local authorities, but he was quite willing to undertake that they should get some kind of special protection which would ensure that they should not be taken unless the general interests overbalanced the local interests, and unless the local interests could be otherwise provided for. It would be very hard that, when an owner had lent his park for military purposes, it should be taken from him against his will, and the whole House would be willing to consider a case of that kind and to provide for it in the Committee stage. The principle that the original owner of land should have a right of pre-emption could not be universally applied. There might be land under this Bill upon which works had been erected of enormous value. In some cases they cost from £100,000 to £500,000, and in one instance he believed two millions. The desire of the Government might be that work should go on—sight must not be lost of the possibility that war might come upon us again. It was therefore surely right that the Government should have the power to let or sell the property to those who would undertake to carry on the work. It was a mistake to suppose that the Government would buy up everything at once. They did not yet know what their wants in peace time would be, and there would be no undue haste. A Bill of this kind was necessary, and he would seek to meet points of fair criticism in Committee.

In the debate which followed, Mr. Newdegate having expressed a hope that the Government would allow municipalities that had provided land without charge for military purposes to demand rent if the period of occupation were prolonged after the war, the Solicitor-General assured the hon. member that it was the intention of the Government to do what he wished.

The House divided on the amendment for the rejection of the Bill. For the rejection, 24; against, 99; majority against, 75. The Bill was then read the third time.

[No doubt this Bill will be considerably modified in Committee. It may have an important bearing on the vexed question of land tenure, and the building interests it involves are so obvious that the advice to watch it very closely from this point of view seems almost superfluous.]

Waterproof Pointing.

St. Mark's Vicarage, at Oldham, which is of stone construction, has been repointed with cement to prevent penetration of considerable dampness. The work has been pronounced as thoroughly successful. We understand that the architects utilised the powder "Pudlo" with the Portland cement as a waterproofing medium.

LEGAL.

Builders' Claim for £97,000: The New Local Government Board Offices.

Spencer Santo and Co. v. Commissioners of H.M. Works and Public Buildings.

June 30. Official Referee's Court. Before Mr. Pollock.

The action by Messrs. Spencer Santo and Co., Ltd., against the Office of Works to recover £97,000 balance of contract price for erecting the new Local Government Board buildings at Westminster was continued, when further evidence was given in support of the plaintiffs' case (see our issues of May 17, 24, 31, and June 21).

Mr. Francis Ruddle, the building manager, whose examination in chief was taken on June 7, 8, and 9, before the vacation, was recalled and his cross-examination by Sir R. Acland, K.C., which had already occupied two days, was continued. Questioned as to his grievance with respect to the stone, he said that he had expected to find a sufficient number of stones for the job kept in stock. Large stones ought to have been in stock even before they were ordered.

Sir R. Acland: Taking the building as a whole would you say that it was ever kept back from want of stone or want of drawings?

Witness: No, not as a whole; but it was delayed in detail. Witness further stated that he made two verbal applications to the architect in 1903 and two in 1904. As the requests were made verbally there were no letters or documents relating to them. In February, 1904, an application was made relating to the skylights, but at that time the Office of Works had not decided whether there was to be a third floor or not. The third floor was an extra floor, and the skylights, of course, had to be in the roof.

Sir R. Acland: It seems that you think you have a right to claim damages for every time you spoke to the architect.

Cross-examination continued: He was only able to give evidence of four applications for details from 1903 to 1906. The work became disorganised in consequence of the delay.

The hearing was again adjourned.

July 4. Official Referee's Court. Before Mr. Pollock.

The hearing of this case was resumed, when Mr. Ruddle, the works manager, was further examined, and at the close of his re-examination

Mr. Compston, K.C., one of the leading counsel for the plaintiffs, stated that counsel and solicitors had been considering the position of the parties, and as it was a very expensive case and likely to go on for a long time if proceeded with, it had been arranged that they should consult with counsel for the Treasury in order, if possible, to arrive at a settlement. If they were successful the terms of such settlement would be communicated to the Official Referee.

The proceedings thereupon terminated for the time being, after having occupied twenty-eight days.

Payments on Contract.

Lawson v. Harris.

July 1. Nisi Prius Court, Dublin. Before Mr. Justice Gordon and a Common Jury.

This was an action brought by Mr. Arch Lawson, sanitary engineer and general contractor, for £40 16s. 2d. for work and labour done in connection with the pulling down and rebuilding of a chimney on the defendant's premises, 2, St. Andrew Street, and the defendant counterclaimed £5 for damage to the roof of the premises during the carrying out of the repairs.

An important question was argued by counsel on both sides as to the custom of the building trade; whether a contractor when he had undertaken work without furnishing an estimate or entering into a contract was entitled to payment on account as the work progressed. In this case there was no contract or estimate, and the defendant paid £5 on account after the plaintiff had commenced the work, but this the defendant alleged was paid as a matter of grace, and that the plaintiff was obliged to finish the contract before he was entitled to payment. Counsel for the plaintiff, on the other hand, contended that plaintiff was entitled to be paid by instalments as the work progressed. Counsel for the defendant asked for a direction for the defendant, inasmuch as no evidence of a contract had been given other than a contract to complete the work, and counsel for the plaintiff argued that there was ample evidence that no specific contract had been entered into, and that the plaintiff was entitled to be paid on account of the work done and not to complete the work unless he was paid.

Mr. Justice Gordon left the matter to the jury, and submitted the following questions:

1. Was there an agreement that the plaintiff should complete the entire work before he was entitled to receive any payment?

2. Or was it an implied term of the agreement under which the work was to be done by the plaintiff for the defendant, that the defendant would pay the plaintiff from time to time as the work progressed a reasonable sum in proportion to the value of the work done?

3. Did the defendant, prior to the plaintiff ceasing the work and removing the scaffolding, refuse to pay the plaintiff such reasonable sums?

4. If they answered 2 and 3 in the affirmative, how much was due by the defendant in respect to the work done?

5. In respect to the counterclaim, was the roof damaged by the plaintiff, and, if so, what was the amount?

The jury answered No. 1 in the negative; Nos. 2 and 3 in the affirmative; No. 4, assessed the value of the work done at £34 10s.; and No. 5, assessed damages at £1, to be a set-off.

REBUILDING DUBLIN.

At the meeting of the Dublin Corporation, held on July 5, the Lord Mayor referred to the question of compensation for the loss of property and the rebuilding of the city arising out of the recent rebellion. He said that a statement had been placed before the Government as to what appeared to him, the officials, and members of the Corporation to be the effect of the insurrection upon the finances and future of the city. He had the opportunity of stating the position as he saw it personally to the Prime Minister, who, he was glad to say, readily recognised the necessity for granting new and special powers to the Corporation to deal with the emergency. At the Prime Minister's request their case was submitted in writing by the Town Clerk to the Irish Government. Interviews and consultations with the Local Government Board followed, as the result of which a Bill was framed and forwarded to the Prime Minister. The details of this Bill at the request of the Prime Minister were discussed a few days later with Mr. Herbert Samuel when he visited Dublin, when to the amazement of himself and his colleagues and of the officials of the Corporation who met the Home Secretary they found that he, while quite prepared to give the Corporation the powers sought, hesitated to agree that financial facilities either by way of grant or loan upon special terms would be forthcoming. As the members of the Council knew, the Government had since the beginning of the war refused to sanction loans for urgent public purposes, such as housing and street improvement. They now offered powers to proceed with street-widening schemes, and refused the financial facilities without which they would be helpless to acquire a square foot of ground from any private owner. This, in spite of continued arguments and appeals addressed to the Government, was the position that day, and if it were not that their claim had now been taken up and would be pressed home by Mr. John Redmond and by the members of Parliament for the city and the county of Dublin the outlook might be regarded as very black indeed for the city. He was glad to be able to tell the Council that they hoped to have the opportunity of placing the matter directly again before the Government.

The Lord Mayor of Dublin headed a deputation which was last week received by the Prime Minister, who expressed his sympathetic interest in the claims for compensation, and promised that the matter should receive close attention.

BRADFORD'S TOWN PLANNING SCHEME.

The town-planning scheme put forward by the Bradford Street Improvement and Buildings Committee was on July 4 the subject of a further conference between representatives of the City Council and the urban district councils of Shipley, Bingley, and Clayton. The scheme involves an area of 3,407 acres on the west side of the city, and in the districts of the neighbouring authorities named.

Alderman Foster, who presided, in welcoming the representatives of the urban councils, assured them that the sole object had been to put forward a worthy scheme which, in acordance with the spirit of the Town-planning Act, should follow the natural lines of development rather than be restricted to artificial boundaries.

After discussion it was unanimously resolved that the plan now submitted, to be called the Bradford, Shipley, Clayton, and Bingley Town-planning Scheme, showing the different areas in the city of Bradford and the urban districts of Shipley, Bingley, and Clayton, be approved, subject to any slight alteration as to boundaries, and that the apportionment of costs of the application for approval of a prima-facie scheme be paid by each authority on the basis pro rata of acreage of each district, and that the application to the Local Government Board for their approval be made in the names of the several authorities concerned.

A further resolution was unanimously agreed to appointing a deputation to wait upon Mr. Raymond Unwin (Chief Inspector of Town Planning under the Local Government Board) with reference to the suggested joint scheme.

It may be added that of the total of 3,407 acres involved in the scheme 2,390 are in Bradford, 650 in Shipley, 255 in Clayton, and 112 in Bingley.

NEWS ITEMS.

Gilbrook Housing Scheme, Birkenhead.

The Health Committee of the Birkenhead Town Council have had before them a letter from the Local Government Board intimating that they "will be prepared to sanction a loan for the execution of the Gilbrook housing scheme when normal conditions return."

Licentiates and the Fellowship.

The next examination of Licentiates aspiring to qualify for candidature as Fellows will take place in January, 1917. Applications for admission to the examination must be sent in by the end of the current year. Full particulars may be had on application to the Secretary, R.I.B.A.

Steelworks Busy.

A stimulus is reported in steel constructional work occasioned by the issue of action contracts for a number of new establishments needed to enlarge the make of munitions and the like. The next three months will be occupied by the rolled steel-works with the clearance of as many of the specifications already in hand as is at all practicable.

Captain E. N. Frankland Bell Killed.

At the moment of going to press, we learn with the deepest regret that Captain Edward Norman Frankland Bell has been killed. He was one of the most promising students of the Liverpool University School of Architecture, and several of his measured drawings recently published in this Journal attest his skill as a draughtsman. Further details are reserved for our next issue.

New Library for Gateshead.

At a meeting of Gateshead Town Council it was announced that a letter had been received from the Carnegie Trustees, in response to an application, offering a grant of £15,000 for a new library on condition that the Council provided a free site and agreed to refund £2,000 in providing a greater number of books, particularly in the reference library, and also agreed, if ratepayers were available, to increase the limit of the penny rate. The buildings are to be erected after the war.

L.C.C. Housing Surplus.

A surplus of £6,577, to be devoted to relief of rates, is anticipated as a result of the London County Council's housing operations during the past year. The net surplus on all dwellings and estates in course of development was £11,610, as compared with £14,393 in the previous year and £15,877 in the year before that; but the extra cost of lighting, heating, insurances, taxation, war bonuses, and allowances to officers and employees serving with the Forces account for the decrease. The total capital expenditure of the Council on its working-class dwellings and estates amounted at March 31 of this year to £3,080,814.

Old Stonework at Linlithgow.

Some time ago a dispute arose between the burghal and landward heritors of Linlithgow as to the appropriate treatment of the old stonework mullions and tracery in the south-east window of St. Michael's Church, into which it is proposed to insert a stained glass memorial to the late Rev. Dr. Ferguson, who devoted many years of his life to the restoration of the edifice. While the Landward Heritors' Standing Committee favoured the retention of the old stonework, the burghal heritors contended that the stone had become so decayed that the renewal of the mullions and tracery was essential for the future preservation of the memorial. After much correspondence and controversy it was agreed that Mr. W. T. Oldrieve, late of H.M. Office of Works, should be asked to inspect the window and that both parties would abide by his advice. Mr. Oldrieve's report has now been received, and he recommends the entire renewal of the stonework.

State of the Building Trade.

The report in the issue of the "Board of Trade Labour Gazette" for June, on employment in the building trades during the preceding month, states that private building work remained quiet, employment being affected by high prices and, to some extent, by difficulty in obtaining delivery of materials. In some districts only repair work was being executed, and many men, especially plasterers and masons, were still working in non-building occupations. Men remaining in the building trade were, however, generally well employed, partly owing to Government requirements, and overtime on war work was frequently reported. The general percentage of "insured" workpeople unemployed in all building occupations was 0.8, compared with 1.0 in April and 1.4 a year ago. For plasterers the percentage was as high as 3.0, but for painters, plumbers, navvies, and labourers it was 0.7 or less.

Engineering and Steel Trades Committee.

The Board of Trade announce that, in view of the wide range of the industries included within the scope of the Committee appointed to deal with the position of the iron, steel, and engineering trades after the war, and in order to expedite the inquiry, the President has decided to subdivide the work of the Committee between two committees, dealing with the engineering trades and the iron and steel trades respectively. He has accordingly appointed the two following Committees: For the Engineering Trades.—Sir Clarendon Hyde (chairman), Mr. Arthur Balfour (Sheffield), Mr. A. J. Hobson, Mr. W. B. Lang, Sir Hallewell Rogers, Mr. H. B. Rowell, and Mr. Douglas Vickers. Mr. A. F. Ilsley will act as secretary to the Committee. For the Iron and Steel Trades.—Mr. G. Scoby Smith (chairman), Sir Hugh Bell, Bart., Mr. Archibald Colville, Mr. James Cox, Mr. James Gavin, Mr. George Mure Ritchie, Mr. Henry Summers, and Mr. Benjamin Talbot. Mr. C. R. Woods, of the Board of Trade, will act as secretary to the Committee.

The Safety of St. Paul's.

The task of shoring up the south transept of St. Paul's Cathedral for the purpose of taking off weight from the upper part of the adjacent piers is now nearly accomplished. We understand that when it is finished the south-west pier, which has been so long in the hands of the workmen, will be released from the steel bands that secure it and from the scaffolding by which it is surrounded, and the monument of Nelson will be pieced together and restored to its place. It is hoped that the first section of the work of preservation will thus be completed by the end of August. Canon Alexander, in addressing the immense congregation which gathered on Whit Sunday afternoon to join in the special *Te Deum* sung in connection with the recent action in the North Sea, described the cathedral as "The Parish Church of the British Empire." Certainly it will be with a sense of relief that Churchpeople in all parts of the Empire will learn that, though much still remains to be done and the internal condition of other piers has still to be ascertained, yet a portion at least of the most critical part of the necessary work is now finished, and some of the worst defects in the main supports of the dome have been successfully dealt with.

The Old Gatehouse at West Smithfield.

The Norman church of St. Bartholomew the Great, West Smithfield, is approached along a narrow passage-way, at the end of which is an arch surmounted by a quaint old gatehouse. It seems that this formed part of the original monastery. Removal of the tiles on the house has brought to light a very fine Elizabethan half-timbered building, which was erected by one Philip Scudamore in the closing years of the sixteenth century. The oak timber is still in a wonderful state of preservation, and Sir Aston Webb, R.A., the architect of the church, expresses the opinion that complete restoration can be effected for a comparatively small sum. When restored the gatehouse will form a notable addition to the architectural features of one of the prettiest bits of the Old City still to be seen.

THE CIVIC ARTS ASSOCIATION WAR MEMORIAL COMPETITION.

Enquiries have been received from sculptors as to the precise operation of certain of the detailed conditions of this War Memorial Competition. Thus it is thought that, as regards Classes 2 to 5 the question as to the rights of execution of selected designs as between donor and artist appears to need some further explanation.

In the case of Class 2 (a wall tablet in cast bronze), the phrase referred to is as follows: "Messrs. Singer reserve the right to carry out any design submitted under this class on payment to the designer of royalties of 10 per cent. on the value of all tablets executed from the designs." The committee desires to make it clear that the payment of royalties of 10 per cent. was specially intended to secure recognition of the artist's copyright in his design.

It is obvious that any design for a tablet submitted in the competition will need radical modification in its inscription, emblems, etc., in order to adapt it for a memorial in any individual case. The committee recognises that such modifications should be done by the artist himself, and that in the case of a sculptural design the necessary modification of the model involves considerable expenditure of time and trouble.

The question has, therefore, been referred to the donors of the prize, who agree that, in the event of their securing one or more orders for supplying such a tablet at £50, they will arrange with the sculptor to make the necessary alterations in the model at a fee to be agreed upon, but not exceeding £15, in respect of each tablet ordered. This fee will be in addition to the royalty payment already referred to.

In the case of Classes 3, 4, and 5, the Association has asked for the submission of drawings only, not of a model such as may be submitted in Class 2; these consequently fall within the province of the architect and woodcarver rather than that of the sculptor.

In all the above classes it should be pointed out that the right "reserved" by the donor is not stated to be an exclusive right, as one competitor has supposed. As regards Classes 1 and 7 (designs for a monument and a fountain) the question does not arise.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, July 19, 1916. Volume XLIV. No. 1124.



MALTON'S VIEW OF THE BLUECOAT SCHOOL, DUBLIN (1798.)

(*See page 28.*)

THE ARCHITECTS' & BUILDERS' JOURNAL.

JULY 19, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1124.

EDITORIAL.

WHETHER or not road-signs or finger-posts are new to America we are unaware. It would be surprising to think them a novelty among so practical-minded a people; and yet, in the "Engineering Record" for June 24, the fact is recorded as if it were strange that "Clarke County, Washington, has adopted the policy of marking its highways with signs indicating the direction and distance to all towns within its limits." An illustrated description of the Clarke County method is not very alluring. To a 2-in. galvanised pipe, about 12 ft. high, having 3 ft. underground and 9 ft. in the air, are clamped as many thin iron plates as may be required to point in various directions, and riveted to these plates, which are black, are aluminium-painted letters and figures showing in miles and tenths the distances of various places in the county. To do it in this way costs five dollars and a half; and candour compels us to say, very reluctantly, that "cheap and nasty" would be our verdict upon the result. Clarke County has done a very useful thing in a most primitive way, which we trust will not be imitated.

* * * *

No doubt most of the sign-posts in our own country are primitive and ugly; but they do not kill the landscape, as ironwork invariably does. Yet wood is hardly suitable for the office that the Clarke County sign performs. A cross-road wooden sign-post showing the names, distances, and directions of ten or a dozen places would be costly in production and maintenance; and in too many of our country districts either there are few mile-posts or none at all, or obliteration and decay render useless those that exist. Many of them are relics of the old coaching days, and on that account make an irresistible appeal to sentiment independently of their failure of function; and they are never quite true to type, or fully characteristic of the countryside, unless the post is aslant and the inscription illegible! Sentimentality, however, must now give way to tidiness and usefulness; and if, as seems probable, the highways of the kingdom are shortly to come under State control, it may be opportune to urge that systematic indication of directions and distances should form part of any well-considered general scheme.

* * * *

To devise a road-indicator that shall be at once effective and artistically inoffensive is not an easy task. Of what materials should it be made, what form should it take, and what style of lettering should be adopted? These questions have been raised repeatedly with respect to urban road-indicators and street labels, and the problem has never been satisfactorily solved. We suggest that it should be taken in hand by the Civic Arts Association, who, when they have got through with their war memorials competition, might institute one having for its object the discovery of decent designs for road signs. Most urban cross-roads are already occupied with some kind of memorial—clock-tower, monument, fountain—but in designing these there has been commonly a singular obliviousness to the fact that either on the monument itself, or near it, a direction indicator of some kind is inevitable. In future monuments destined for such sites, why not make proper provision for it? An architect who has not the foresight to do this deserves the injury that may be done to his work when other hands repair his omission; but this default does not justify the local authority in failing to consult him before converting his clock-tower into a road indicator!

* * * *

An interesting letter on Land Registration reaches us from a subscriber living at San Diego, California. His statement that in America the transfer of real estate by recording and not by the act of signing the deed is universal, the deed itself being a short printed form, and that the average cost of the operation does not exceed four shillings, or, at most, something under a pound, explains in great measure the facility with which, in the United States, land changes hands, and why building in that country is always brisk. Land there, however, is free from mediæval traditions, and from the legal accretions, incrustations, and encumbrances that the intervening centuries have imposed upon it here. In the States, simplicity is as natural as complexity is in this. Otherwise it would be difficult to account for the strange obsession of those who, the simple and cheap process of registration being open to them, deliberately reject it in favour of the full-dress parade which lawyers encourage. Our Californian correspondent's contribution to the discussion is therefore the more welcome, as it will help to inspire confidence in the minds of those who distrust simplicity, and who are sorely in need of enlightenment on this subject. Their education has been hitherto a painfully slow process; but an object-lesson is always impressive, and one that is exhibited by a practical-minded people like the Americans is invested with peculiar force. If simplicity of land transfer is found to work satisfactorily in America, why should not we give it a trial? We are convinced that registration will yet become popular, and that its general adoption will greatly promote building.

* * * *

Mr. James Sant, retired R.A., who died last Wednesday in his ninety-seventh year, makes the eighteenth century momentarily less remote to us, because he was a pupil of the incomparable John Varley, who was born in 1778 and died in 1842. What Sant learnt from Varley is not obvious. Varley seemed to embody and summarise the spirit of the eighteenth century, Sant that of the nineteenth. Varley, forsaking portraiture and

architectural subjects—his first exhibited work was a view of Peterborough Cathedral—devoted himself to landscape, which he saw with eighteenth-century eyes, rendering it artificial and genteel. Sant, in the 'seventies, was a fashionable portrait-painter, with a "flattering touch" and a pleasing attention to the dresses of duchesses. He found his way to the great heart of the Victorian public with mild appeals to pseudo-religious sentiment like "The Infant Samuel," which, engraved by Cousins, found its way into thousands of homes. Even more sentimental, and nearly as popular, is "The Soul's Awakening," an almost pathetically faithful reflection of suburban feeling. It is a very clever piece of inspired commonplace. Of this, of the very celebrated "Little Red Riding-Hood," and of almost any of Sant's pictures, of which, in the course of his long and honourable career, he exhibited more than three hundred at the Royal Academy, one may say justly, "It is magnificent, but it is not art"—at least, not art as it is understood to-day.

* * * *

In commenting upon the settlement of the case of Spencer Santo and Co., Ltd., against H.M. Office of Works, the Official Referee observed that "in view of the enormous expense which would have been incurred had the case gone on, the arrangement must be regarded as a satisfactory one for all parties." It has occupied twenty-eight days, and, as one of the counsel remarked, "might have gone on indefinitely." Very indefinitely, whether as to time or the determination of points at issue; for in every building contract there must always arise differences of opinion which in neither side are demonstrably false or true; and this was not only a very large contract (£473,000), involving an enormous mass of details, almost every one of them susceptible of a different interpretation, depending on the particular angle of observation and on the personal equation of the observer, but its normal course was interrupted by the death of the original architect. In such circumstances, it is a manifest hardship that a contractor should suffer loss if deviations and delays arise; in which contingency litigation should not be the only available remedy. So far as the Spencer Santo case was heard, nobody seems to have been to blame; and in all similar conditions claims by contractors to recover the expense arising from causes that are apparently inevitable might surely be met by a less expensive and less harassing process than that which the law provides.

* * * *

A regrettable feature of cases that are not completely heard, but are settled out of court before half the tale is told, is that one-sided statements, to which there may be a complete answer, are left uncorrected. A graceful general withdrawal of everything that could possibly be construed as an imputation is nearly always forthcoming, and is no doubt very soothing, but is perhaps less satisfactory to the persons assailed than the absolute rebuttal with which many who suffer from *ex-parte* statements are fortified. In the Spencer Santo case no personal character or reputation was attacked, and nothing that came to light in the evidence was in the least degree discreditable to anybody concerned. It is nevertheless regrettable that such cases are not more frequently kept out of court, if only because they are not invariably so clean of all imputation. Surely it is, on all grounds, infinitely preferable to arrange for settlement as a substitute for litigation rather than as a result of it.

* * * *

A most interesting feature of the Red Cross fête held in connection with "France's Day" last week, was the use of the Middle Temple Hall for the performance of scenes from "Twelfth Night" and "Much Ado About Nothing." It was here that "Twelfth Night" was first performed; the Hall, which is a hundred feet long, having been built in 1562-72. It has housed many masques, the last of them on Candlemas Day, 1733. Ben Jonson, in writing that "Painting and carpentry are the soul of masque," resented bitterly the masterfulness of Inigo Jones, who designed the scenic effects for which Ben Jonson wrote the book of the words; but Jonson's chief grievance apparently was that he got no more money for his poetry than that "Assinego Jones," as he called him, received for his stage architecture. It was a very pretty quarrel. The open-timber roof of the hall is a highly respectable example of Elizabethan carpentry. Inigo Jones, who had been a joiner, would admire it; and for James Burbage, Shakespeare's partner, it must have had exactly the same interest, for he also had pushed a plane; but Jonson, having been bred a bricklayer, would naturally regard it with a jealous eye.

* * * *

Captain Eric Norman Frankland Bell, who, as we briefly recorded last week, has been killed in France, was a student-architect of great promise, as the half-dozen or so of his drawings which have been lately published in this journal bear witness. When the war started, he was about midway of his career in the Liverpool University School of Architecture, but he was among the first to volunteer for military service. He went to France last October. After acting for a time as intelligence officer, he was put in charge of trench mortar work (Royal Inniskilling Fusiliers). His father, who, before the war, was a retired military officer, is now on active service as captain and adjutant, and has two sons holding commissions in the army. At the Liverpool School of Architecture Eric Bell won all hearts. "He was," writes one who knew him there, "so good, gentle, and modest." Professor C. H. Reilly, the principal of the school, writes of him: "He had the sensitive temperament of the real artist. You know him as a draughtsman only. I have seen his designs grow from small beginnings to well within reach of any of the Institute prizes." But he has won the highest of all distinctions—he has died for his country.



CAPTAIN E. N. FRANKLAND BELL
(Killed in France.)

HERE AND THERE.

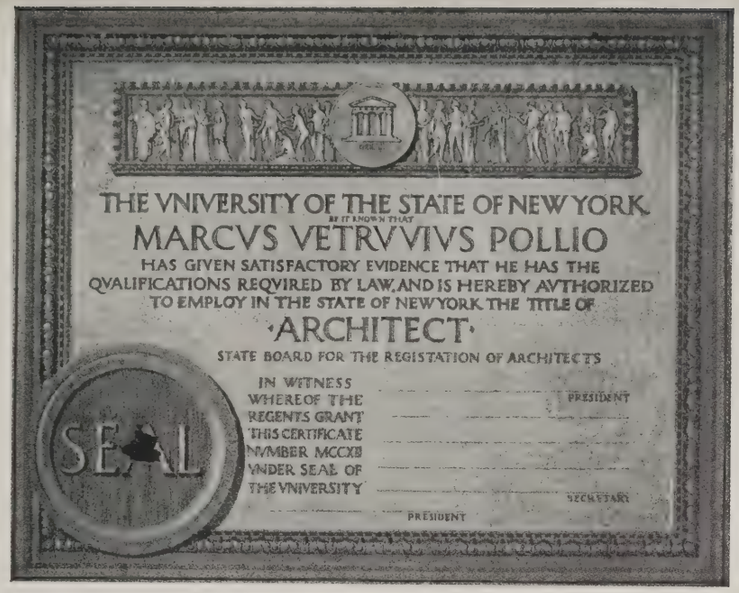
BACK from the battlefields of France, where our New Armies are fighting so gloriously, Mr. G. J. Howling, a former colleague on the editorial staff of this journal, sends me a note which is of such general interest that it may fittingly be put into type. Mr. Howling joined the forces at the outbreak of war, and after preliminary training went out to Malta, then to Egypt, then to Gallipoli (where he experienced what warfare meant in trenches deep with flood water and swept by blizzards), then—after his platoon on a raft, "evacuating" at Cape Helles, was just missed by a shell from "Asiatic Annie"—back again to rest in the shade of the Pyramids, and finally to France. He is now in a hospital near Bristol, and this is what he tells me of "A Village in Northern France:" "It is situated just within the Allied line, between Arras and Albert, and is something more than the ordinary French village. It had, for its size, quite an imposing main street, with a delightful stretch of symmetrical green at one end, bordered with tall close-planted trees, and finished off with a shimmering pool of water. But the green is pitted with yawning shell holes to-day; here and there one of those tall regular trees has been struck to earth; branches and boughs of others lie littered about the ground; and around the pool the grass has grown lank and weedy with neglect. Everywhere are signs of the havoc of War. The village has changed hands at least four times; and in the process it has been bombarded and battered by Germans and French alike. That was before the British began to extend their line. For some months now the remains of the village have been held by our own troops. With careful searching you may find here and there a barn or a cottage that has miraculously escaped shell fire; but for the most part the place is a desolation of roofless and shell-shattered walls. We will stroll along the main street and glance at some of the recognisable remains, taking care to keep within easy reach of cover, for the Germans have a nasty habit of bursting shrapnel over the road at moments least expected; also they search the whole village occasionally with machine-gun fire, and then it is unfortunate for anybody who happens to be exposed. Luckily the French were wise enough to build cellars under their houses; and it is in these cellars that we live and have our being when not engaged in 'strafing' Germans. A first glance along the village street gives the impression that the place has been struck by an earthquake. Here a big tottering brick wall hangs perilously over the roadway, threatening to fall at any moment. There a porte-cochère stands alone amid a tumble of ruin, the steel girder which forms its frame bent almost to a right-angle in the middle through the collapse of heavy masses of masonry upon it. At intervals three or four buildings together have been completely blotted out, great piles of débris alone remaining to mark their site. To the right is a building of some importance—apparently the Hôtel de Ville. It has been lucky enough to escape with the loss of only half its roof, though its front is badly punctured with shell holes. Still remaining on the wall are two or three martial proclamations, calling the French army to arms. Now and again something particularly grotesque or striking will arrest the attention, such as the ruins of an estaminet from one of whose shattered walls still dangles a sign inscribed with the legend 'Vin et tabac,' though neither vin nor tabac has been sold here for many a month. Farther along, in the churchyard, is something that has been the cause of considerable comment. Photographs of it have been published in most of the papers. It is a great Crucifix, standing high and exposed, yet remaining perfectly intact and unscratched. Everything around it has been churned into desolation with shell fire. Graves have been flung up, memorial tablets smashed to fragments; decorative ironwork torn and twisted into unrecognisable tangle; yet the Crucifix remains untouched. The church itself is a complete ruin. Before the War it must have been a fine building, judging from the few oddments of it that stand intact. These include a portion of the chancel wall and a tall jagged remnant of the apse, in which is a window with some attractive wrought-ironwork filling. The church was a venerable survivor of the Renaissance, built with small neat bricks, whose mellowed texture proclaims the passing of time. Now it is, for the most part, a big heap of jumbled bits. You may identify pieces—perhaps a keystone, perhaps a section of cornice, perhaps a carved capital from the interior, still bright with gilt. And amid these poor relics of a noble structure towers that pathetic fragment of the apse, which is still spared, but only because it serves as a landmark for the artillery! But the vault below is unharmed; and it is here on Sundays that the chaplain conducts divine service for the benefit of a large and somewhat mud-stained congregation. There must be great activity in building after the War if all the damage is to be repaired, for this village is typical of most others that lie along the Front. It is difficult to comprehend the ruin without actually seeing it. Occasionally a building has been saved from material damage by the use of thick sand-bag barricades, built close against the walls but this protection is only possible in rare and isolated cases. When we think of the cities that have also suffered—Louvain, Ypres, Reims, Verdun and how many others, the total of destruction assumes appalling dimensions. How to rebuild them, and at whose expense, is a somewhat staggering problem of the future."

UBIQUE.

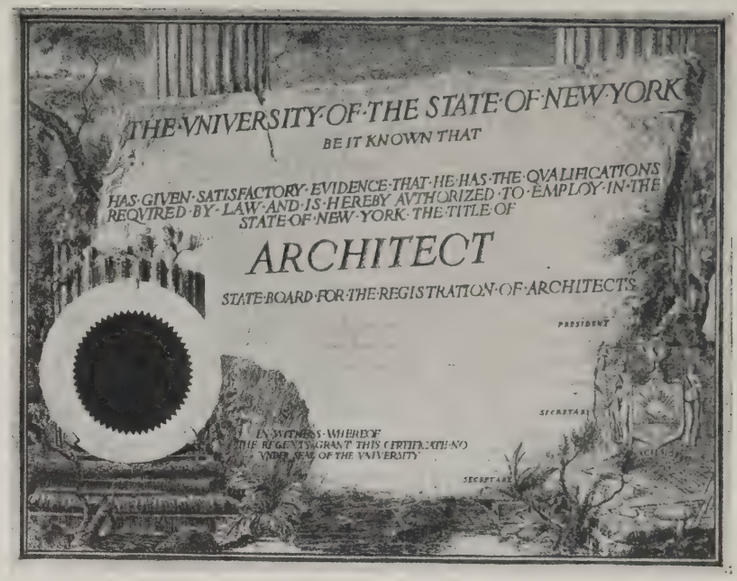
THE PLATES.

Designs for Architects' Certificates.

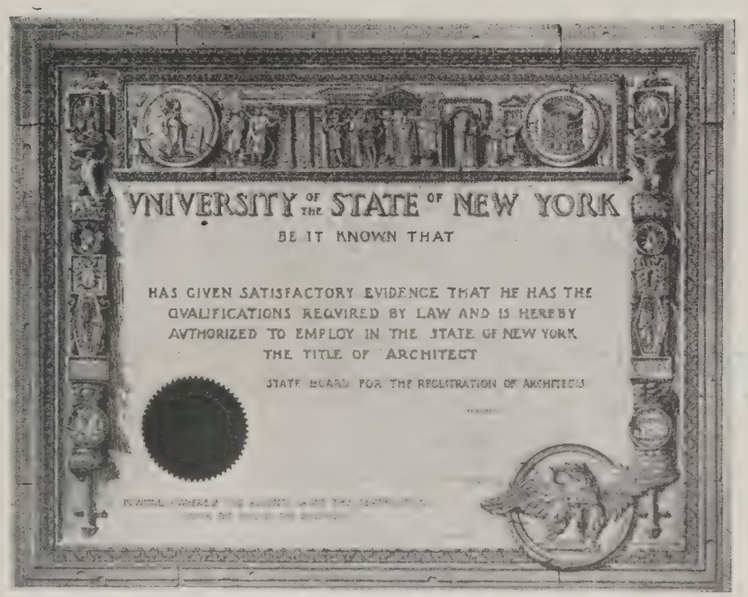
OUR plate shows the four premiated designs in a competition recently held for an architect's certificate under Registration in New York State. The competition was conducted by the New York State Board for the Registration of Architects, by whose authority the certificates will be issued by the regents of the University of the State of New York to all persons entitled to practise as architects in that State. Cash prizes of £40, £30, £20 and £10 were offered, and the designs were assessed by a jury, consisting of the following architects—William R. Mead, George Carey, Frank H. Quinby, Henry Bacon, Charles A. Platt, J. Forster Warner and S. B. P. Trowbridge. Competitors were allowed a free choice of style, the only condition being that the wording of the text and its arrangement should be in accordance with the particulars set forth in the conditions. Nearly all the designs submitted were based on architectural ornament, though a few were confined to simple arrangements of lettering. The selected design is to be engraved on steel and printed on parchment, the size of the certificate being 10 in. by 8 in. The Registration Act of New York State, it may be added, became law about a year ago. It requires all persons residing in the State having a place of business in the State for the practice of architecture, and who were not then engaged before the passing of the Act, to obtain a certificate of qualification before they may use the title "architect." Examinations of candidates are conducted under the supervision of the regents of



Design placed First. By Austin Whittlesey.



Design placed Second. By Robert Patteson.



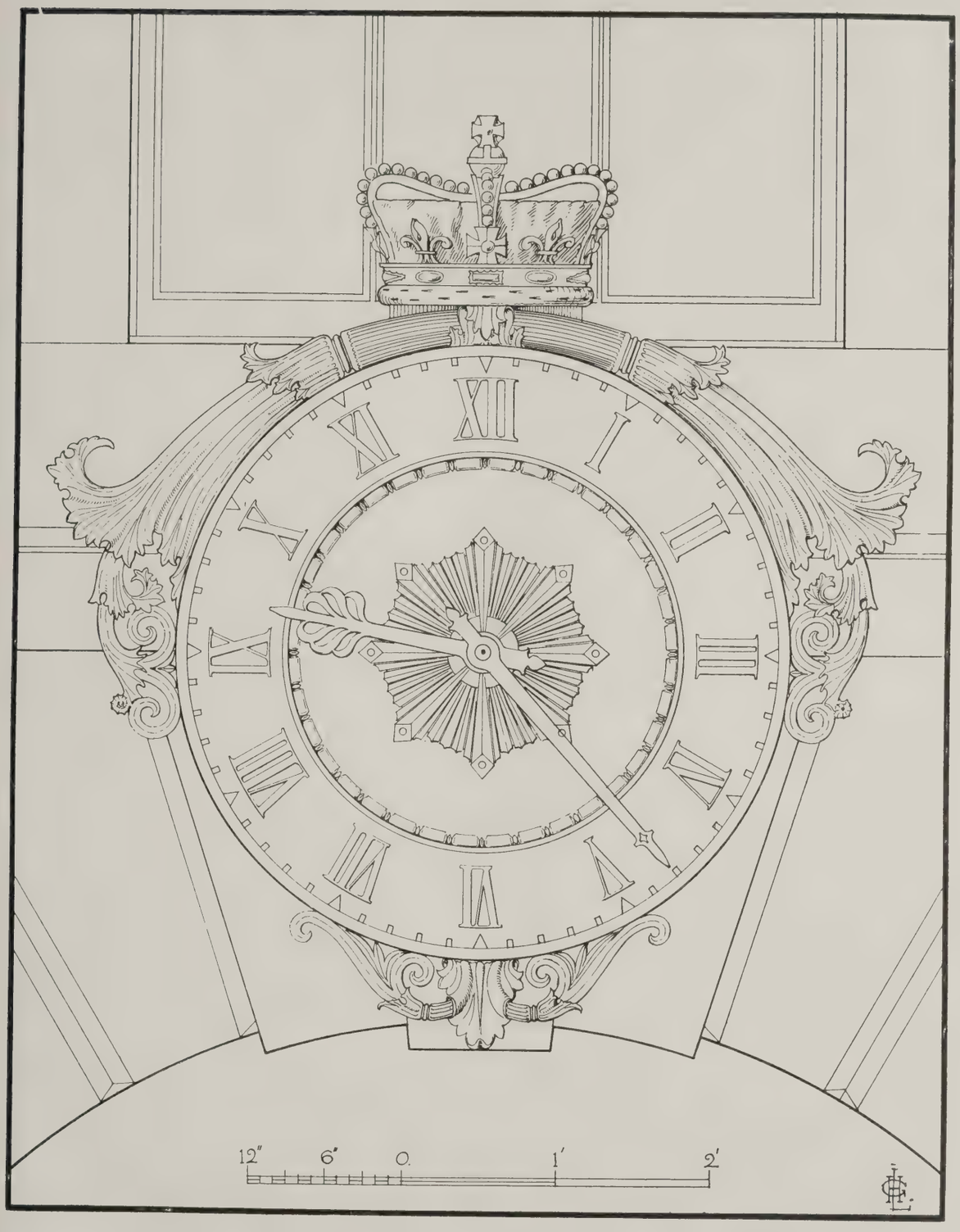
Design placed Third. By Robert W. Hubel.



Design placed Fourth. By Henry O. Milliken.

MODERN AMERICAN ARCHITECTURE (SERIES II). II.—PREMIATED DESIGNS FOR ARCHITECTS' CERTIFICATES, NEW YORK STATE.

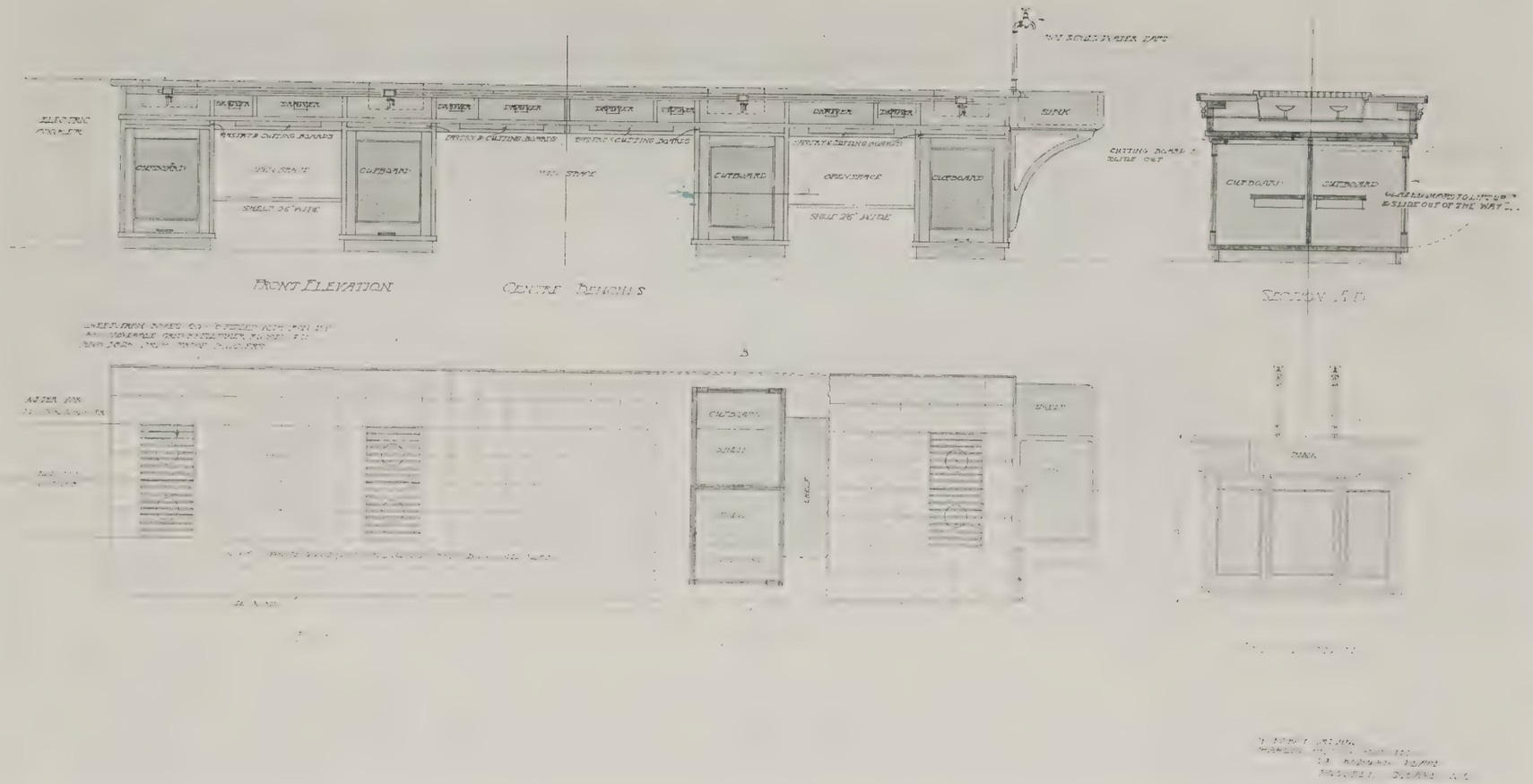
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DETAILS OF CRAFTSMANSHIP (SERIES II). XII.—PROPOSED NEW CLOCK FOR GENERAL POST OFFICE, DUBLIN.

J. HOWARD PENTLAND, R.H.A., ARCHITECT.

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SCIENCE AND TECHNICAL BUILDINGS. VI.—TEACHING KITCHEN, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.: DETAILS OF CENTRE BENCHES.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

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STUDENTS' DRAWINGS (SERIES II). XXVIII.—WILLIAMS DEACON'S BANK, MANCHESTER.

MEASURED AND DRAWN BY GORDON HEMM.

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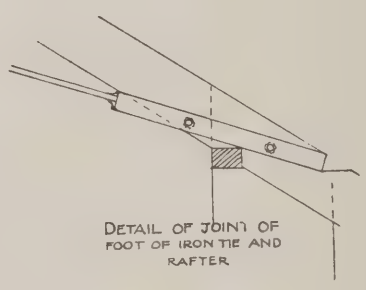
WHITEFORD MANOR FARM

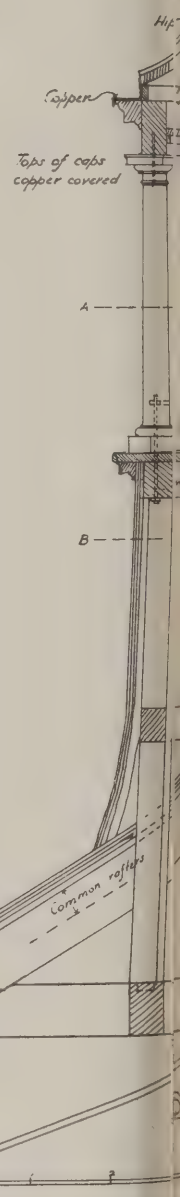
DETAIL OF TURRET 1 INCH SCALE



FRONT ELEVATION

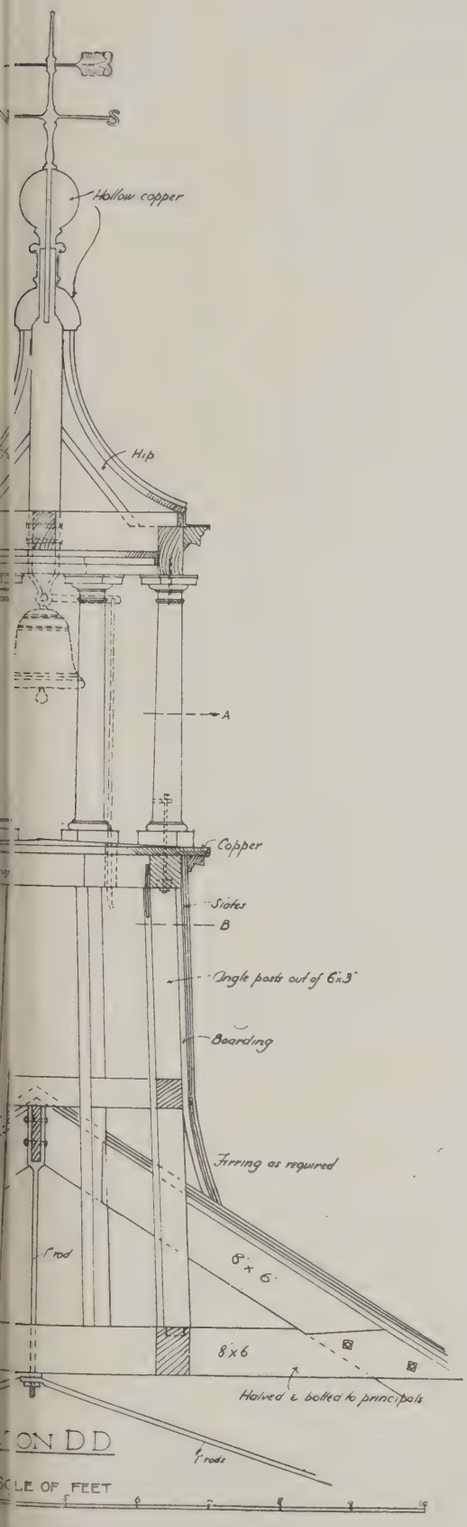






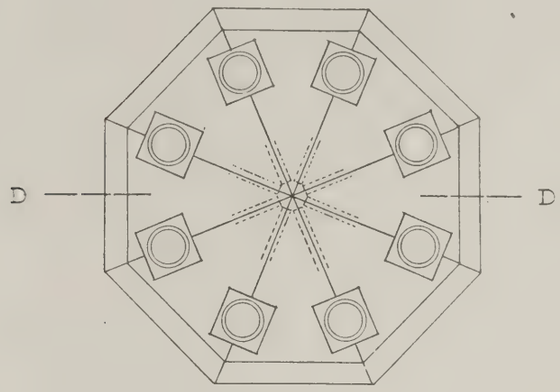
ARCHITECTS' WORKING DRAWINGS (SERIES II.). XXIX.—TURR

RICHARDSON AND GIL

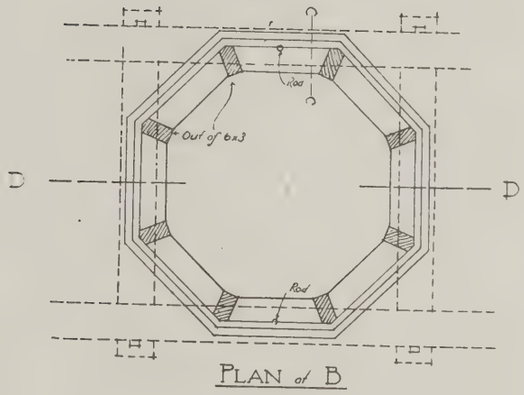


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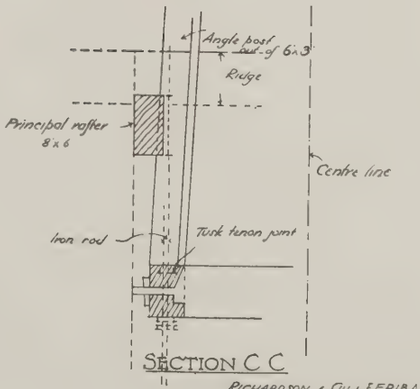
CLE OF FEET



PLAN of A



PLAN of B



SECTION C C

RICHARDSON & GILL FRIBA
ARCHITECTS
41 RUSSELL SQUARE WC

ARM BUILDINGS, WHITEFORD MANOR FARM, CORNWALL.

.B.A., ARCHITECTS.

he State University by a Board of Examiners composed of architects of experience and high professional standing.

Proposed New Clock, G.P.O., Dublin.

This was under construction at the time of the ebellion, and was not therefore in position on the ost Office when the building was gutted by the Sinn einers. The design for the clock was prepared by r. J. Howard Pentland, R.H.A., Principal Surveyor the Commissioners of Public Works in Ireland, id is an adaptation of Francis Johnston's original etch for the clock he intended to erect under the rtico of his building. In the new clock the crown the Tudor crown adapted. The clock face, crown rolls, wreaths, etc., are of bronze, the band rrying the numerals being white-enamelled, and



TEACHING KITCHEN, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

e hands electro-gilt. The central star is detachble, to give access to the electric movement. The ystone and two voussoirs are new, projected from e old surface to give support to the back of the ck face, which is in contact with the stone jecting string-course.

Teaching Kitchen, King's College for Women, London.

King's College for Women has a series of teaching oms in connection with cooking and household rk, these comprising a teaching kitchen with aching scullery adjoining, a teaching pantry, and eaching laundry. A general view of the teaching chen is given on this page, and details of the main tre benches are shown on the plate. The benches ve tiled tops bedded on slate slabs, and each is ed with four sunk sheet-iron boxes containing gas rners, with grids over; cupboards, drawers, and stry and cutting boards being provided on the long es of the benches, an electric cooker at one end, d a deep washing sink at the other end. The kitchen is equipped with different types of gas stoves and coal ranges, gas meters with glass fronts enabling the working arrangements to be studied, and other apparatus relating to the teaching of all kinds of cooking. The floor is of red quarries. The room is lighted from a large semi-circular-headed window on the west side, and by a segmental portico, with top lights as well as windows on the east side, next the courtyard of the College. In later issues we shall publish photographs and details of the chemistry laboratories in this building. We are glad to learn that the new series of plates is much appreciated by architects. When arranging for the series we were convinced that the extensive provision of new buildings of this class would be of paramount necessity after the War, and decisions which have since been arrived at—such as those of the Allied conference at Paris—serve to indicate that our assumption is very well founded.

Williams Deacon's Bank, Manchester.

The drawing reproduced (by Mr. Gordon Hemm, of the Liverpool School of Architecture) shows the side elevation of this building, which is a singularly good design in itself, and surprisingly so when we remember that it belongs to the 'fifties of the nineteenth century. Edward Walters was the architect. The front elevation was illustrated in our issue for June 21, when also a few further particulars of the building and its architect were given.

Turret, Whiteford Manor Farm, Cornwall.

This was designed to complete the junction of two roofs on the Royal farm buildings at Whiteford, near Cullington. It was designed by Messrs. Richardson and Gill, and carried out by the estate workmen. The bell is an old one, dating from 1775; it was formerly a stable bell at Whiteford House, the residence (since demolished) of the Indian Nabob, Sir William Call.

THOMAS IVORY AND THE BLUECOAT SCHOOL, DUBLIN.

THOMAS IVORY did not have the good fortune of the distinguished patronage which brought Sir William Chambers and James Gandon to Dublin, and though he made a name for himself in the Irish capital he was overshadowed by contemporary architects of important public buildings. His work, nevertheless, deserves to be better known in England. The principal building erected from his designs was undoubtedly the King's Hospital, commonly called the Bluecoat School, at Oxmantown, Dublin. So far as it was carried, the building was completed somewhere about 1780; its progress had been intermittent owing to lack of funds. The design is well shown on Ivory's original drawings, twelve sheets in all, handsomely bound and presented by the Governors of the school in 1776 to His Majesty George III.; they are now in the British Museum. Two are here reproduced.

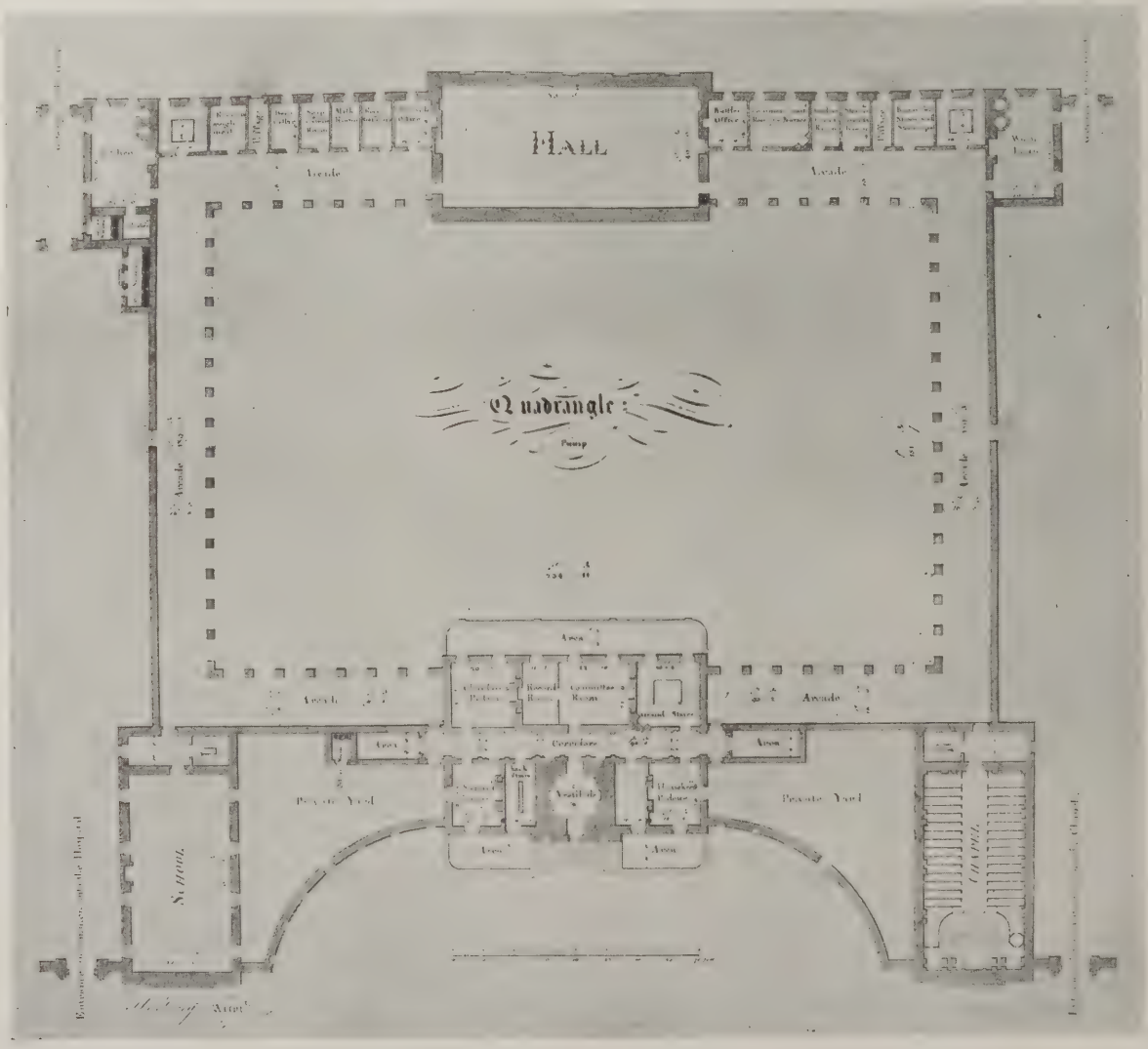
Unfortunately the scheme had to be modified while the work was in progress. This meant the surrender of the cloistered quadrangle upon which Ivory was then engaged, and he so took to heart a direction to contract rather than increase the cost that he resigned the next year when the work was only half finished. His main conception of the building, however, was secured. One of their own members, John Wilson, Controller of the City Works, was then appointed by the Governors in his place. So much of the school as was carried out cost £20,000; to finish it as planned was estimated to require a further expenditure of £10,000.

The whole frontage is 300 ft. and faced with Portland stone. The spire was commenced, though not completed, and Malton's view of 1798 (reproduced on page 23) purports to represent the complete spire as designed. Malton's drawing was obviously made from an amended design. The centre pile, of which the spire is the main feature, is 80 ft. by 58 ft. by 44 ft. high; the height to the ball under the vane was to have been 130 ft. The dimensions of the chapel have been given as 65 ft. by 32 ft. by 32 ft.

Simon Vierpyl, a sculptor employed by Lord Charlemont, was associated with Ivory in the work. There is a painting in the board-room, *circa* 1779, representing the conference for the reduction of the cost of the buildings; Ivory in a maroon coat in the centre of the group is attentively listening to Vierpyl and the chairman.

The plasterwork was by Charles Thorp, whose bill is extant. Other records of the Institution show that the several tradesmen were directly concerned without the intervention of a general contractor.

Thomas Ivory was a native of Cork and a man of great practical knowledge. He served his apprenticeship as carpenter and completed his time in Dublin. He was considered to be an excellent workman. An ingenious turn led him to follow gunstock-making for the Ordnance, under Alderman Truelock, then chief gun-maker. He determined to pursue the study of architecture, and became acquainted with Bell Mires, who taught drawing. By close application he soon



BLUECOAT SCHOOL, OXMANTOWN, DUBLIN: GROUND-FLOOR PLAN.



BLUECOAT SCHOOL, OXMANTOWN, DUBLIN. THOMAS IVORY, ARCHITECT.

eclipsed his master, and was considered to be the best architectural draughtsman in Dublin. He became drawing-master to the Royal Dublin Society, and here Martin Archer Shee, afterwards President of the Royal Academy, was one of his pupils. Ivory was likewise appointed surveyor of the Revenue buildings, and held the two positions at the time of his death in 1786, at the age of fifty-four. He had little or no opportunity of studying antique work; apparently he was never able to go abroad, and by what means he acquired his knowledge is unrecorded. His name is not mentioned in the "Dictionary of National Biography."

It is on record that he came forward with competitive designs on every occasion. He competed for the Dublin Royal Exchange, and was indebted to the exhibition which followed for considerable improvement in his style of drawing. It is also believed that he submitted designs for Newgate and the Four Courts. He built a bridge at Lismore and a few private houses in the country; one for Dr. Strues and another for Dr. Cleghorn, of Kilcarty. In addition, he designed and carried out Newcomen House, opposite the Castle gates in Dublin, erected on the site of the mansion of the Earls of Cork for Sir William Newcomen, a Dublin banker.

In the competition for the Dublin Royal Exchange he was the only architect who submitted two designs. Sir William Chambers was coaxed by Lord Charlemont to compete, but Chambers excused himself, suggesting that the premiums were not sufficiently tempting. Sixty-one designs were submitted in February, 1769. Thomas Cooley, of London, gained the first premium, £100; James Gandon, of London, the second premium, £60; and Thomas Sandby, of London, the third premium, £40. Ivory and a few Irish architects were rewarded with pieces of plate.

Ivory was living in Harcourt Street, Dublin, 1780-5. In the Dublin Directory for 1786, the year of his death, his address is Ranelagh Road; and there is an appreciative notice in "Anthologia Hibernica" for 1793. This notice, very well written, accounts Ivory a man of extraordinary merit. At the same time it points out that if the ornament in excess had been spared on the fronts of his houses "they would have been more perfect," some of his designs partaking "too much of flippery embellishments." None the less, considering the probable limitations of his field for study, his Bluecoat School compares very favourably with much contemporary work.

HARRY SIRR.

CORRESPONDENCE.

Land Registration.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—The subject of guarantee of titles may be of interest in this discussion. Here in America the recording of documents is, I think, universal, and the transfer of real estate takes effect by recording and not by the act of signing the deed. The loss of a document is of slight importance after the copy is made into the official books, and the deed itself is usually a short printed form. Thousands of sales of property occur annually in this district, the average cost of which does not exceed four shillings for legal charges. In addition to a deed, however, a buyer usually demands a certificate of title, which guarantees the property sold or mortgaged to be free from liability. These certificates (which are practically insurance policies) are furnished by Title Guaranty Companies of strong financial standing, who follow the records daily and are prepared within a few hours to issue a clearance certificate. The latter, being usually a continuance of a former certificate, rarely costs more than twelve or fourteen shillings for residence property. Largely due, no doubt, to the ease of transacting business, the sale of property and erection of buildings is more commonplace to Americans than to Englishmen.

Even schoolboys here invest savings in small instalment property, and buy and sell with considerable poise and self-satisfaction. A main essential to the registration system is a precise official survey, with the bounds of every ownership defined and numbered. These numbers then form the means of identification, and later divisions of ownership are referred to, for instance, as "part of Lot 102, Block 7, Tract 119," on the official map of Township Blank.

An Australian registration, known as the Torrens system, is rapidly being adopted here, by which the County Recorder issues a certificate of title, and this official has simple machinery providing for a hearing and judgment of a court, "quieting title" to the date when the Recorder begins his record of the property affected.

Anyone familiar with registration cannot doubt its benefits to the public and to the building interests in particular. The statements that the system creates officials unduly does not appear to be justified by experience here, though it is the cause of good fireproof buildings being erected where old dangerous structures would suffice but for the argument of safety for records of the district.

A separate subject, allied to land registration, is the operation of "Lien laws," which protect the payments to those employed on a building or furnishing material the details of which form an important part of the registration system here, and cause an architect no little work in protecting a client against claims for which he would be liable if a final payment is made before thirty-five days have expired following the filing of notice of completion of the building.

San Diego, California. CHARLES CRESSEY.

Dublin Reconstruction Schemes.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I think that the difficulty you find in understanding the argument in my former letter arises from want of intimate knowledge of Dublin conditions.

Sackville Street, an eighteenth-century anticipation of the town-planning idea, is now essentially, I might even say entirely, a business artery. Retail shops predominate in it, and it is a traffic centre and a tramway hub. If a new tramway stopping and interchanging place were substituted, Sackville Street, I am convinced, would either (1) became a slum, or (2) the new arrangement would simply prove an expensive and inconvenient alternative for the present satisfactory adjustment, which has been evolved in and by the progress of time from the spacious and judicious foundations provided by the foresight of those eighteenth-century inhabitants of Dublin who then controlled the city.

As to my ideas upon the point of expenditure, this is what they are. I feel assured that if the Government contribution is limited to bare compensation many years must elapse before Dublin could be restored even to its former state. But surely such a long-drawn-out operation really implies the permanent location of trade in the quarters to which it has been temporarily diverted. But as I cannot conceive that there is any hope of the Government being induced to a liberality beyond what is just sufficient to restore the *status quo ante*, I consider it a mere waste of time and mind to propose schemes which are supposed by their advocates to improve upon the skilful work of the Georgian architects, who were also accomplished engineers, and whose executed plans met with full and glad acceptance until the present era of excessive town-planning arose.

A MODERN MAN.

ENGLISH MURAL MONUMENTS AND TOMBSTONES.

In the exceedingly well-written text accompanying his collection of "English Mural Monuments and Tombstones," Mr. Herbert Batsford starts a vigorous hare when he says that "a deficiency in beauty and a lack of grace and charm, besides being in themselves lamentable, will probably defeat the very purpose of the memorial and bring upon it the contempt of a later age." Of "the contempt of a later age" most manifestations of taste are reasonably assured, because the taste of one age differs from that of another. Principles may be eternal and immutable, but fashions vary, partly in consequence of some obscure law of alternating attraction and repulsion, which is broadly and vaguely expressed as the human love of change, and partly as the result of the yeasty welter affecting men's minds at any particular period, making art the expression of the age that produced it.

In nothing are these phenomena more clearly or more conveniently observable than in handwriting and lettering. Apart from charlatanry (which could hardly flourish if it had not in it some nucleus of truth), there is character in handwriting and in lettering, and that character is at once individual and racy of its period, because the individual cannot completely evade his environment. Generally speaking, he will write like his contemporaries, because he will think and feel like them. Strong personality may enable him to see that they have erred and strayed from truer and purer traditions, and then he may struggle to win them back. For in art there are always a few at least who witness to the truth, even though they suffer for it.

This matter of lettering, simple as it seems, is always an index and a portent of the feeling for form. It is not legible, simple, and graceful, nor can it show the opposite qualities, independently of contemporary manifestations of graphic art; and hence it affords a simple but sure test of the artistic (or inartistic) spirit of its age. Bad taste in lettering, as in other matters, is, broadly speaking, a departure from the normal; modesty, simplicity, strength, are forsaken for an exaggeration of what is unessential, an insistence on what is trivial or irrelevant, this including wilful or subjective distortion of accepted form or proportion. It may also find expression in meanly skimping or contracting what is essential. Handwriting or lettering may be sprawling and flourishy, or it may be cramped and crabbed. In either case it is a departure from the normal observance of just proportion and true modesty. During the mid-Victorian period, a riot of atrociously bad lettering coincided with a general falling-off from grace; and the revival of the eighteenth century Caslon old-faced type by Mr. Whittingham, of the Chiswick Press, was symptomatic of an impulse of which improved typography was merely a casual instance.

Now, the bad typography which had caused the Caslon old-faced matrices to be relegated to the lumber-room, whence they were fetched at the instance of Mr. Whittingham, was at first a gradual growth. John Baskerville, writing-master and tombstone carver, turned his attention to punch-cutting, and produced type faces that, while fairly inoffensive in themselves, have wrought incalculable evil as the parents of the abominable "modern-face" type which is still current in news-sheets, although it is seldom tolerated in books—a stiff, awkward, ill-proportioned, mechanical-looking letter without freedom or fluency, and destitute of all grace—a letter naturally preferred by the Germans when they condescend to forsake their mediæval black letter, but never tolerated by the French, even in their cheapest boulevard newspapers, although much of the type they use derives some of its beauty from the Baskerville face, of which the punches went to Paris. While the French modifications of this face have tended to grace and charm, our modern letter was got by exaggerating all the undesirable features of the Baskerville founts, and its gradual evolution makes an interesting study in deterioration. It is seldom or never employed by the house of Batsford, which always makes examplary use of the incomparably beautiful Caslon old-face, a descendant in the direct line from the inscription on the Trajan column.

Because lettering betrays so much of personal character—or because we instinctively think or feel that it does—it is a dominant force wheresoever it is found, and that is a reason why it should never be big and blatant. Not only is it seen, but it speaks; and because we are, or should be, more concerned with its message than with its physical form, the latter should be unobtrusive. It is the vital part of a tablet or tombstone memorial; and to our mind it is a nice point whether mere decoration should not be subordinate to it. That obviously depends, however, on the predetermined character of the memorial. With a tablet, or a tombstone, the inscription may well predominate, and may be quite destitute of any kind of ornamentation, when the lettering, being substantive and objective, may excusably assume more boldness and freedom than would be permissible where it is kept subordinate as a descriptive label to a monument.

Mr. Batsford classifies his collection into four main divisions—(1 Panels within simple carved or moulded frames; (2) projecting panels, of which the framework recedes towards the face of the wall, and these he esteems as the most successful of mural tablets; (3) the more elaborate architectural compositions, which he justly regards as "delightful exercises in a constructional art used decoratively"; and (4) what may be called cartouches. He comments upon the very beautiful lettering of a tablet at Sibton, Suffolk (1662), that the complex features of the decoration are "cleverly managed." They most certainly are, but the complexity which called the cleverness into play is rather oppressive; and cleverness is at best a dubious intrusion where art should conceal art. Mr. Batsford's commentary, however, is invariably judicious, and one could wish that he had given us more of it. His examples are sufficiently interesting *per se* to warrant their publication at any time; but their relevancy to present circumstances greatly enhances their value; the book is as useful as it is beautiful. Its title-page, by the way, is so masterly an example of handsome lettering that one would greatly like to know who did it and why he destroyed its claim to absolute perfection by introducing the italic lines and the majuscules in which the names are rendered.

"English Mural Monuments and Tombstones." A collection of eighty-four photographs of Wall Tablets, Table Tombs, and Headstones of the 17th and 18th Centuries; the subjects specially selected by Herbert Batsford as representative examples of the beautiful and traditional types in the English Parish Church and Churchyard, for the use of craftsmen and as a guide in the present revival of public taste; with an Introduction by Walter H. Godfrey, F.S.A. London: B. T. Batsford, Ltd., 94, High Holborn.

LEGAL.

The Claim Against H.M. Office of Works: Terms of Settlement.

Spencer Santo and Co., Ltd., v. H.M. Office of Works.

July 11. Official Referee's Court. Before Mr. Pollock.

After a few days' adjournment, which took place at the close of the examination of the second witness for the plaintiffs, this case was brought to a conclusion, after a hearing which had occupied twenty-eight days, by a settlement between the parties. (See our issues of May 17, 24, 31, June 21, and July 12.)

The plaintiffs are a firm of building contractors, now in liquidation, who claimed from H.M. Office of Works the sum of £97,000, balance of contract price (£473,000) for erecting the new Local Government Board offices at Whitehall. The plaintiffs alleged that extra work had been imposed upon them by alteration of plans, by delay in the provision of materials, and by the substitution of cheaper work.

Mr. Holman Gregory, K.C., Mr. Compston, K.C., and Mr. Arnold Inman, instructed by Messrs. Turner and Co., were counsel for the plaintiffs, and Sir Reginald Acland, K.C., Mr. Lowenthal, and Mr. Giveen, instructed by the Treasury solicitors, were for the defence.

Mr. Holman Gregory, on the case again coming before the Court, said he was pleased to be able to inform the Referee that he would not be further troubled with the action. Since the adjournment he had discussed the matter with Sir Reginald Acland, and terms had been arranged, subject to the approval of the Court. Those terms were that the record should be withdrawn, that each party should pay their own costs, and that the defendants should pay to the plaintiffs £3,000, the order being that the sum mentioned should be paid into court. The action had been brought on behalf of the debenture-holders, and he would ask the Referee to make an order that the sum mentioned be handed to the Chancery fund. In stating this he would like to make one observation. It was only fair that he should do so. He desired to say that if, during his opening, or at any period of the case from beginning to end, any aspersion or complaint had been made against Sir Henry Tanner or any other official connected with the Office of Works, he would like, on behalf of his clients, to withdraw it. Having heard the witnesses, he was satisfied that there was no ground for any such complaint.

Sir Reginald Acland, while expressing his concurrence in the arrangement, said that it seemed if the case had proceeded it might have lasted indefinitely, and would have cost a very large sum.

The Official Referee said he thought the parties had come to a very wise conclusion, and everyone would benefit by the arrangement. He agreed with the observations of Mr. Holman Gregory, as it seemed to him that there was not the slightest foundation for any suggestion as to the conduct of those concerned which called for adverse observations. Having heard the two witnesses who seemed to know most about the case, it seemed to him that the claim was excessive. In view of the enormous expense which would have been incurred had the case gone on, the arrangement must be regarded as a satisfactory one for all parties.

Judgment was entered in accordance with the terms stated.

CONCRETE AND STEEL SECTION

(MONTHLY.)

CONCRETE TO RESIST SEA-WATER.

Conclusions reached after an exhaustive search of the available technical literature on the subject of the destructive action of sea water on concrete, and a scientific analysis of a particular case by experimental study to determine the effect of various elements in the problem, are given in a report by Mr. W. Watters Pagon, in the "Journal" of the Engineers' Club of Baltimore. These conclusions are summarised in the statements: Use materials that cannot be attacked by the sea-water salts. Mix these so as to obtain the maximum density. Have no stones near the surface of the concrete, but use a mortar face 3 in. thick.

A more complete summary of the conclusion of the study of the requirements for making concrete that will have the greatest resistive power against the action of sea water (and also probably of alkali waters) is given in the following paragraphs:

1. The addition of puzzolan in some form is widely practised in Europe, and appears to be theoretically correct. It has not been tried in America, to the author's knowledge, but is worth an exhaustive test. The amount should not be over one part for each part of cement, not less than half part.

2. Waterproofing with substances that combine chemically with the free lime ought to be successful, and is well worth testing.

3. Between extreme high and low tides the concrete surfaces should be faced continuously, without joints, with about 3 in. of 1:1½ or 1:2 mortar, made with sand as specified below, well cured before coming in contact with the sea water. The facing must be placed simultaneously with the backing.

4. The cement should be low in lime and alumina and contain as little gypsum as possible.

5. Sand must be silicious, uniformly graded from fine to coarse, with not less than 50 per cent. nor more than 70 per cent. passing through a No. 20 sieve, and not more than 3 per cent. passing a No. 100 sieve, and must have no organic matter coating the grains. It must be free from roots and easily disintegrated grains, such as feldspar, shells, limestone, mica, etc. It should be washed free from clay, and should show a tensile strength for 1:3 specimens not less than 85, 90, 95, and 100 per cent. of standard Ottawa sand of the same consistency, using the brand of cement that is to be used on the work at ages of 1, 3, 7, and 28 days respectively.

6. Where concrete must be exposed to sea water, without mortar facing, gravel should not be used. Broken stone should be hard durable trap, granite or other dense, hard, insoluble stone. It should not exceed ¾ in. in size, and should be free from crusher dust, sand, dirt, organic matter or other foreign substances. The mixture should be 1:1½:3 or 1:2:4, or should be proportioned for maximum density.

7. Pure fresh water should be used in sufficient quantity to permit the materials to be well puddled and spaded, so that no later surface treatment or patching will be required, but not sufficiently to materially retard the setting of the cement. Care must be exercised, however, to prevent the formation of laitance or pockets of neat cement or very rich mortar.

8. Forms should be tight to prevent leakage of cement or, where concrete must be submerged immediately, to prevent contact with the sea water.

9. Facing should be reinforced with steel, well covered with mortar and securely anchored to the backing.

10. No surface treatment should be given.

11. The work should be allowed to harden two weeks, if possible, before coming in contact with sea water. Two months is better.

12. Sea water work should never be done in cold weather, with temperature below 40 deg. Fahr.

13. Where possible, precast mortar-faced blocks cured in damp sand for at least one month should be used. The facing should extend back at the joints to prevent saturation of the backing. The joints should be pointed with 1:1 mortar of coarse sand.

14. The most durable surface will be obtained if granite or other dense stone be used as facing. This should not be less than 6 in. thick, anchored back with wrought iron clamps, and pointed with 1:1 mortar of coarse sand and cement as noted above.

15. On mortar or concrete surfaces the growth of barnacles, moss, etc., will frequently afford protection.

REINFORCED FLOOR SLABS.

To the series of beautiful booklets now being issued by the British Reinforced Concrete Engineering Company, Ltd., 1, Dickinson Street, Manchester, has been added one on "Floor Slabs Reinforced with B.R.C. Fabric." Two special sizes of the fabric are made for use in all classes of concrete floors or pavements laid directly on the ground, such as office and warehouse basements, workshop and shed floors, platforms, slopes, and embankments, garages and yards, promenades and footpaths, and it is stated that, by using a layer of the fabric in the concrete, cracking is in most cases entirely eliminated. At the same time, the thickness of concrete may be reduced, and the floor be more quickly laid, a thickness of three or four inches of concrete being generally sufficient. Hence it is further claimed that the saving in the concrete is more than the cost of the fabric, which for this purpose is made in rolls 240 ft. long by 87 in. wide. Rolls 40 ft. long are also supplied.

B.R.C. fabric is a wire mesh made up of a series of parallel longitudinal wires, held at fixed distances apart by means of transverse wires arranged at right angles to the longitudinal ones, being securely welded to them at the points of contact by a patented electrical process. The fabric is supplied with a light coating of slaked lime, to protect it from rust during transit or while lying in stock. The wire used is best quality mild steel. The tensile strength varies from 80,000 to 110,000 lb. per square inch. The elastic limit averages 75,000 lb. per square inch. The safe working tensile stress on the steel wire may be taken as 25,000 lb. per square inch, being one-third of the stress at the elastic limit.

The main wires reinforce the concrete along direct lines of tension. The object of the cross wires is to space the main wires and to hold them in position. In addition to this, they assist to distribute concentrated loads over a larger width of floor, and to prevent cracking due to changes of temperature or variations in moisture content of the concrete. The effectiveness of the rigid connection of cross wires to the main wires in distributing the loading is clearly discerned where slabs are tested to destruction.

Useful tables of dimensions, safe-loads, etc., and illustrations of various types of span, are included in the booklet.

A SEA BATHING PAVILION.

The accompanying illustrations show a most interesting bathing pool and pavilion recently constructed in reinforced concrete at Sea Point, a favourite residential suburb of Cape Town, and popular as a holiday resort for visitors from all parts of the Union of South Africa, and even from Europe. The southerly Antarctic current here renders the sea beautifully cool and refreshing even on the hottest day, and on that account bathing at Sea Point is greatly indulged in.

The swimming pool, 250 ft. by 180 ft., with a maximum depth of 6 ft., is formed out of the rocky foreshore, with a heavy mass concrete sea wall to seaward. On the ground floor of the pavilion (slightly below road level) are 130 cubicles for men bathers and 120 for women bathers, as well as shower and slipper baths, lavatories, attendants' rooms, and two large club-rooms. A balcony 8 ft. wide extends along the entire sea face of the building at this level. The shore below is covered several feet deep with sand and forms an extensive shelter from the sun, and a children's playground. Above the ground floor is a promenade roof (asphalted), with two shelters, one of which is used as a bandstand, and over the centre portion a large refreshment room has been constructed. There are semi-circular balconettes at intervals on the roof, cantilevered out over the balcony below. In plan the building is "U"-shaped, with an overall length of about 250 ft., and two wings 74 ft. long, the width being 33 ft.

The main columns are spaced at about 16 ft. centres transversely; longitudinally the centres vary from 21 ft. 6 in. downwards. They are 16 in. sq. throughout, which gives an ample allowance in case another storey is added. The balcony columns were taken down to rock. At the end of the wings, where they are most subject to wave action, the columns are braced. There is a retaining wall below the ground floor and down to rock along the land side of the building. It is 11 ft. 6 in. high by 7 in. thick and of vertical slab design. The longitudinal main beams are 18 in. deep below the

floor, by 10 in. wide, and the secondary transverse beams are all 12 in. deep by in. wide at about 6 ft. centres.

Two contraction joints were formed in the length of the building, thus dividing it up into three portions; but although these seem to act quite satisfactorily the very trying conditions experienced in South Africa appear to require more allowance for contraction, as cracks have not been entirely obviated.

The walls are of reinforced concrete throughout, 4 in. thick. They were rubbed down with a hardwood rubber on the removal of the centering, but otherwise are as the shuttering left them. All mouldings were formed in the shuttering. Copings and parapet, except where the latter was of open construction, were formed *in situ*. There are two reinforced concrete stairways from the ground floor up to the promenade.

A reinforced concrete footbridge has been constructed over the railway line in front of the pavilion to serve as the main approach. The bridge was originally constructed as a single span of 29 ft. clear, with stairs at either end. It was subsequently decided to add another span of 23 ft., so that access could be obtained direct to the promenade roof. At either end of the 23 ft. span are short cantilevered projections, and the main slab has been cantilevered out on either side to support pay-boxes, between which turnstiles have been inserted.

The aggregate was obtained from the site and crushed by machine. Sea sand was also used. The shuttering was composed of specially heavy tongued-and-grooved boarding, and, after use, a great deal of it was finally built into the permanent work. The total cost of the construction, including the pool, was £16,000. The architect was Mr. Fred Cherry, the engineer was Mr. Nisbet Roberts, and the contractors were Messrs. Murray and Stewart. The engineers for the reinforced concrete were The Trussed Concrete Steel Co., Ltd., the Kahn system being used throughout.





SWIMMING POOL AND PAVILION, SEA POINT, CAPE TOWN. FRED CHERRY, ARCHITECT.

MANUFACTURING CONCRETE FENCE POSTS.

Methods employed by the New York Board of Water Supply in manufacturing reinforced concrete fence posts in connection with their work on the Catskill Aqueduct were described by Mr. R. N. Wheeler in a paper before the New England Waterworks Association recently. These posts were cast in thin metal forms in a horizonal position. Two methods were used, namely, the table and the battery methods. In the former the moulds were placed on a skeleton table, while in the latter a small steel car with hinged ends, designed to hold five layers of six moulds each, was used. The table method was generally the more satisfactory of the two. It required a little more floor space, but it allowed better access to the forms for trowelling the faces of the posts at the proper time.

Mr. Wheeler gives the following hints as the result of his observations:

1. Moulds should be coated with a thin film of oil.

2. Concrete aggregates should be of two sizes, well graded; the fine up to ¼ in., and the coarse from ¼ to ½ in. for the smaller sections of post and ¼ to ¾ in. for the larger.

3. The mixture must be very accurately proportioned, analyses being desirable to determine the exact proportions. Generally about one part of cement to three parts by volume of aggregates gave the best results.

4. The concrete must be thoroughly mixed and of wet consistency.

5. The ends of moulds must be sealed tightly with clay, plaster of Paris, or cement to ensure good tops.

6. The air must be expelled by joggling and running a trowel back and forth through the mixture and along the sides of the mould while placing.

7. The reinforcement must be placed in correct position. This can be accomplished without a spacing device after a workman becomes skilled.

8. The reinforcing metal, particularly round wires, should be thoroughly rusted or nicked to give a proper bond. Bending the ends of these wires back 180 deg. gives good results. As received from the mill, these wires are greasy from the drawing process, and it is necessary to hasten rusting by the use of a weak acid, afterwards neutralised. Posts tested to failure show that unrusted straight wires pull through, whereas properly rusted ones, or those with ends bent, break. It has been suggested that running the wire through a barbing machine such as is used in the manufacture of barbed wire nails would deform it sufficiently to give a good bond. This would add not over one-half per cent. per pound to the cost.

9. Posts must be properly cured. They can be removed from the moulds in thirty-six hours, and may be stood in a vertical position and water sprayed over them from suitably arranged piping, or, preferably, they may be spaced in a horizontal position and covered with sand or sawdust kept wet. Curing should cover at least two weeks, and, better, four.

10. The rounding of edges of the exposed face can be accomplished in the form, but better by rubbing with a carborundum brick after erection and before the wire is stretched. If fencing is attached by wrapping wires, rough edges assist in holding the wires.

TOWN-PLANNING CANADA'S CAPITAL.

A report looking to the development of a capital city for Canada befitting the size and importance of the Dominion has been presented by the Federal Plan Commission, created in 1913 to study the situation. The report recommends the separation of Ottawa and Hull into a separate federal district, and the moulding of the two cities into an appropriate Governmental seat. The plan sets aside 120 acres for Government grounds, in addition to that occupied by the buildings, and other areas for parks and other purposes. The recommendations also embrace streets, bridges, railways, and water transportation. Some of the specific recommendations are as follows:

Central Open Space.

The central area in the city will be a great open space running southward from Chateau Laurier and the Plaza Bridge, and at the same level. Canal, railway and cartage traffic will be on a lower level. The present Grand Trunk station will be enlarged into a Union Station. The present post office will be removed and an imposing one erected facing the Plaza. A new city hall and various law courts and registry places will also be constructed facing the Plaza.

The land west of the Parliament buildings will be used for departments of the Government. Here, in time, a second group of buildings will be constructed to harmonise with those on Parliament Hill. These buildings will house the chief Governmental activities, but bordering on the east of Major Hill Park and stretching along Sussex Street there will be other buildings less ornamental in character and built for practical utility.

The plan contemplates the devotion of only about 120 acres to Government buildings, over and above that actually occupied by the buildings themselves. For this purpose Washington uses about 300 acres; but less land is required at Ottawa, owing to the advantageous position on the high banks of a river.

Streets.

A great thoroughfare connecting the east and west portions of the city will be made of Laurier Avenue, which will be widened to 90 ft.

To provide better connection between the two portions of the business section of Ottawa, a new diagonal street will be constructed which will be carried over the railway and canal by a viaduct. Somerset Street will be widened and developed as a cross-town artery. Numerous other streets and roads will be widened and improved. Street-car congestion will be removed wherever necessary. A street car subway under Sparks Street or Wellington Street is recommended, thus removing the cars from Sparks Street, which is narrow and will be greatly congested. Considerable highway construction is recommended.

It is recommended that trunk arteries be laid down immediately in proper location, so that outlying areas will be built up to conform properly with them. The present park system is to be improved and other park areas acquired.

Bridges.

Five new bridges will be built across the Rideau River and also five across the Rideau Canal. Four new bridges are recommended for construction across Brewery Creek and the Gatineau River. It is proposed to park the banks of Brewery Creek, the Gatineau River and the Ottawa River, interfering as little as possible with existing industries.

Three bridges for the Ottawa River are included in the plan; one being at Little Chaudiere Falls; another of monumental character, to connect Ottawa with the municipal centre of Hull; and a third just below the mouth of the Gatineau River. The commission says that the bridge leading from the municipal centre of Hull should be a high-level bridge, and that it would be desirable to provide two levels, one for transportation and one for general traffic, although this bridge is now shown on the plan as having but one level. The present traffic conditions surrounding Victoria Bridge, say the commissioners, suggest this high-level bridge as an improvement for the near future.

A tunnel will be built under the city, connecting the railway entrances from east and west, and all trains will operate through this tunnel. Two general freight areas, one at the east and one at the west side, with necessary depôts, are recommended. Industry will be segregated into certain areas, and the height of buildings will be controlled, in order to insure the Government buildings being the dominating groups.

The overflow from the Rideau River will be controlled by the removal from the river channel of the old wooden piers and loose stone, the removal from the river bed of boulders, the dredging of channels through the shoals, the raising of the Minton Bridge, the opening of a channel through the embankment of the Canadian Pacific Bridge, and the widening of the channel past Maple Island.

It is recommended that the Government acquire as a national park upward of 100,000 acres to the north of Ottawa.

Railways and Waterways.

The report includes a comprehensive study of the local railway situation, and recommends that the railways within the district be placed under the control of the governing body of the federal district. Electrification of the unified system is suggested, with terminal operation and control, the district to acquire by purchase or agreement all trackage and terminals within its territory. Grade separation, requirements for expansion, obstacles placed in the way of growth by present railway situation, present traffic facilities and operation, growth of traffic, future freight-handling systems, and numerous other topics also are discussed in the report.

Specific recommendations are made for water terminals and for the development of the waterfront for commercial purposes wherever possible, care being taken that no real sacrifice will result to existing business interests.

Recommendations are made that the canal be retained in its present location, that the clearance for fixed bridges be established at 12 ft. instead of 30 ft., as at present; that the canal be developed to afford recreational facilities; that no more industrial developments be permitted to take place along the banks of the canal between the Rideau River and the Ottawa River; and that as soon as possible such industries as now exist along this stretch of the canal be removed to other locations.

The members of the Federal Plan Commission are Sir Herbert Holt, chairman; Sir Alexander Lacoste, K.C., Montreal; Frank Darling, Toronto; John Home Smith, Toronto; and the mayors of Ottawa and Hull. The commission was created by an Order

Council, September 12, 1913, it being provided that the Government should pay half of the cost of the plan, and that the other half should be paid by the two cities, according to population, the municipal authorities having expressed their desire to co-operate with the Government in the work. E. H. Bennett acted as consultant on city planning and E. L. Cousins as consulting engineer.

QUEEN'S HOTEL, ABERYSTWYTH.

The Queen's Hotel, Aberystwyth, on the Marine Esplanade, contains about 150 rooms, and has been remodelled to bring it thoroughly up to date. The alterations have been carried out in such a manner as not to interfere with the working of the hotel. The drainage and sanitary work has been entirely renewed and fifteen new bathrooms have been provided; these rooms are floored with terrazza, and the walls are tiled, each room being supplied with bath, w.c., and lavatory basin. All piping throughout has been left exposed.

New kitchens, sculleries, serveries, still-room, larders, etc., have been provided and have been fitted up in the most modern manner with large central range steam ovens, hot closets, and carrying tables. The kitchens have electric lift communication. The hotel has been heated by means of radiators on the low-pressure system, and a separate domestic hot-water installation has been provided entirely in copper throughout. Fire mains, hydrants, etc., and an external iron staircase commanding each floor, render efficient protection against fire. The building has been thoroughly decorated, and electric light has been installed throughout. The following were the contractors: General building contractor, Mr. E. E. Jenkins, Aberystwyth; electric lighting, C. Cooper and Co., London; heating and domestic hot water, C. P. Kinnell and Co., Ltd., London; fire prevention, Merryweather, Ltd., London; sanitary and plumbers' work, Shanks and Co., Ltd., London; terrazzo and tiling, Art Pavements Co., London; kitchen fittings, etc., J. Slater and Co., Ltd., London; ironwork and casements, Gardiner and Co., Ltd., Bristol; electric lifts, Smith, Major, and Stevens; stoves, Bratt, Colbran, and Co., London; decorations, Mr. D. Watkins, Aberystwyth. The whole of the work has been designed and carried out under the superintendence of Mr. J. Augusus Souttar, architect, 52, Bishopsgate, London, E.C.

SCIENCE SCHOLARSHIPS.

The Consultative Committee of the Board of Education, in an interim report on scholarships for higher education, recommend new annual grants from public funds of £329,500 for technical and scientific training. The whole position is reviewed in a comprehensive survey, in the course of which it is pointed out that "We must be prepared after the war for a great increase in the cost of education, and not only of scientific and technological education, if we are to make good our shortcomings in the past."

Government grants to universities in Germany are not less than £1,500,000; in this country in 1913-14, £265,000. The recommendations include Government grants to universities, to secondary schools, and to local authorities. The deliberations of the committee, to whom the subject was referred in 1913, were suspended at the beginning of the war; but at the request of the Government sittings were resumed in order that the scientific, industrial, and commercial bearings of the subject might be considered with a view to the present interim report. That the literary side of education will not be neglected in the final report is suggested by the following passage: "The exceptional needs of the nation are at the present moment, and will be for some time to come, rather on the scientific and technological side than on the literary side. Those of us whose main affection is for letters and all that letters can give concur, however reluctantly, in this conclusion."

LICENCE TO BUILD: NEW ORDER OF THE MINISTER OF MUNITIONS.

On July 13 a supplement to the "London Gazette" contained the following paragraph: "It shall be lawful for the Minister of Munitions by order to regulate or restrict the carrying on of building and construction work, and by such order to prohibit, subject to such exceptions as may be contained in the order, the carrying on of such work without licence from the Minister."

As a sequence, it was further announced that, in pursuance of the powers conferred upon him by the Defence of the Realm Regulations, the Minister of Munitions orders as follows:

On and after the twentieth day of July, 1916, no person shall without licence from the Minister of Munitions commence or carry on any building or construction work that is to say the construction alteration repair decoration or demolition of buildings or the construction reconstruction or alteration of railroads docks harbours canals embankments bridges tunnels piers or other works of construction or engineering. Provided that where the total cost of the whole completed work in contemplation does not exceed the sum of £500 and the use of constructional steel is not involved the licence of the Minister of Munitions shall not be required.

Provided also that where the work in question—

(*a*) is being or is to be carried out by or under contract with any Department of His Majesty's Government, or is declared by any such Department to be a Government contract for the purpose of this Order, or

(*b*) is being or is to be carried out by or under contract with any local authority which has been authorised by any Government Department since the 25th of March, 1915, to borrow money in respect of such work, the licence of the Minister of Munitions shall not be required.

Provided also that where a first application for a licence under this order has been made and is pending for the carrying on of work which has been commenced before the said twentieth of July, 1916, nothing in this order shall prohibit the carrying on of such work until the licence has been refused.

All persons desirous of obtaining a licence to commence or carry on any building or construction work as above defined for which a licence is required shall apply in writing to the General Secretary, Ministry of Munitions, 6, Whitehall Gardens, S.W., for such licence and shall give full particulars of the description and locality of the work, the purpose for which it is intended, and the estimated cost, and such further information as the Minister may require and shall comply with any restrictions or conditions subject to which the grant of such licence may be made.

[*In publishing this new order, the daily and weekly Press gave it, in some instances, headings that convey a false impression. "Building Forbidden," "Restriction of Building," "Building to Stop," suggest increased stringency, whereas the fact is that the new order is but little more than a definite and positive statement of conditions that have been in force for some considerable time. Indeed, the former tension is to some extent relaxed, and the builder is afforded a clearer understanding of what he may or may not do. Uncertainty as to whether it is an offence to build at all is removed, and the introduction of a licensing system for large contracts sets ajar a door that was formerly locked and bolted. The new order, therefore, really represents a considerable change for the better.*—EDS. A. AND B. J.]

CIVIC ARTS ASSOCIATION WAR MEMORIALS COMPETITION: OFFICIAL LIST OF AWARDS.

Following is the official list of awards in this competition. The designs are now on exhibition at the R.I.B.A. premises, 9, Conduit Street, London, W. Some of the designs will be illustrated in our next issue. A cursory inspection of the exhibits warrants the belief that the competition has produced many designs of high merit.

Class I.—Design for the L.C.C. Staff Memorial: First prize, £50, E. A. Rickards, F.R.I.B.A., and Henry Poole, R.B.S.; second prize, £15, Eric Gill, sculptor, and Charles Holden, Architect; prize, £10, Alan Wyon and Stanley Ramsey.

Class II.—Design for a Wall Tablet in Cast Bronze: First prize, £20, Eric Bradbury; second prize, £5, H. P. Gill and R. F. Wilson; prize, £5, Macdonald Gill; book prize, W. A. Robertson.

Class III.—Design for a Wall Tablet in Carved Wood: First prize, £20, Thomas Rayson; second prize, £5, F. C. Eden; book prize, Walter John Brown.

Class IV.—Design for a Wall Tablet in Marble or Stone: First prize, £20, Eric Gill; second prize, £5, Alec Miller; book prize, Mrs. Bernard Jenkin.

Class V.—Design for a Simple Wall Tablet in Wood: First prize, £10, Tom Broadbent; second prize, £5, A. E. Martin; book prize, Thomas Rayson.

Class VI.—Design for Mural Painting for a Boys' Club: First prize, £10, Gladys D. Davison; second prize, £5, Miss Elsie McNaught; prize, £5, Miss Lanchester.

Class VII.—Design for a Fountain for a Country Town or Village: First prize, £20, Cyril A. Farey; second prize, £5, T. H. Morcom; prize, £5, Miss Helen Frazer Rock.

Class VIII.—Inexpensive Memorials for the Home: For this class the three prizes have had to be arranged equally among the first three, Miss Muriel Perrin, Mr. Arthur Dix, Miss Lillian Frost, and James Guthrie being the prize winners (£3 each), also Miss Joan Kingsford, £1.

NEWS ITEMS.

Architect Presented to the Queen.

Mr. M. E. Collins, architect of the South London Hospital for Women, Clapham Common, was presented to the Queen when Her Majesty opened the building recently.

London County and Westminster Bank Dividend.

The directors of the London County and Westminster Bank, Ltd., have declared an interim dividend of 9 per cent. for the half year ending June 30. The dividend, 9s. per share (less income-tax) will be payable on August 1.

War Bonus for Building Operatives.

Lambeth Borough Council at its last meeting agreed that the wages of men occupied as bricklayers, smiths and fitters, labourers, carpenters and joiners, should, as recommended by the London Master Builders' Association, be increased by 1d. per hour for the period of the war and to continue for nine months after the war.

Housing and Ethics.

Preaching at St. Paul's Cathedral, the Dean of Winchester declared that Christianity stood as closely connected with the building of houses as with the building of churches. We had been dealing with the housing question for fifty years, realising its urgency, but never grappling with its difficulties.

Waterproofing a Vicarage.

St. Mark's Vicarage, Oldham, which is of stone construction, has been re-pointed with cement to prevent penetration of considerable dampness. The work has been pronounced as thoroughly successful. We understand that the architects used the powder "Pudlo" with the Portland cement as a waterproofing medium.

Memorial to Archdeacon Wilberforce.

It is proposed that the memorial to Archdeacon Wilberforce, who was for twenty-two years rector of St. Mary's, Southampton, shall include the raising of £2,000 for the endowment of the Institute which he built at Westminster, and the balance shall go towards erecting a Memorial Hall at Southampton, in the Deanery ground.

Postage to Neutral Countries.

The War Office notifies that from now onward all papers posted to any neutral countries will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to Technical Journals, Ltd., and subscribers to THE ARCHITECTS' AND BUILDERS' JOURNAL who wish to send to friends in neutral countries should order copies to be despatched by the Publisher from the office at 27-29, Tothill Street, Westminster.

The Leeds Ring Road.

The Moortown town-planning scheme, plans of which the Leeds City Engineer (Mr. W. T. Lancashire) has been authorised to prepare, contains a hint as to one of the districts through which the projected ring road round the city will probably pass. At present (comments a writer in the "Yorkshire Observer") the ring road is not so much a definite project as a desirable possibility when peace returns, for it has not yet reached the stage of detailed consideration. It is well, however, to avoid future trouble and expense by taking powers under the Town-planning Act to control the development of suburban districts. The average cost per mile of good wide roads over an area planned in time is about £7,000. Over areas built upon in the old haphazard way, the cost may and generally does run into hundreds of thousands. Leeds has spent two and a half millions on widening and improving thirty-nine miles of streets, not counting the huge sums devoted to clearing unhealthy areas. That is a heavy penalty for the mistakes and shortsightedness of the past. Liverpool, a pioneer city in these matters, has its ring road already in existence. Birmingham has a scheme partly carried out. The advantages of a ring and its intersection of the radial roads are better communication between the outer districts and less traffic in the centre of the city.

Rebuilding of Dublin.

A delegation of the Dublin Muncipality, which went to Paris to study the methods of reconstruction employed in the invaded towns, was received on July 11 by the Committee of the Exposition de la Cité Reconstitutée at the Tuileries. The party included Mr. Gallagher, Lord Mayor of Dublin; Alderman Morane, Councillors Beattie and Tyler, and a director of the Great Southern and Western Railway. Two other members arrived later: Mr. Griffith, President of the Irish Association for the Reconstruction of Towns, and Mr. Fletcher, Secretary of the Irish Department of Agriculture and Technical Instruction.

Town-Planning Scheme for Worcester.

The Streets Committee of the Worcester City Council have recommended the Council to consider the effect of a proposed factory at Blackpoole upon the question of building in the neighbourhood and to give directions to this Committee to present a report upon the necessity for obtaining a Town-Planning Scheme to ensure the proper laying out and development of the land in the neighbourhood of the factory. Alderman Walter Caldicott, in moving the adoption of the recommendation, said a tremendous amount of work would be required, and probably before the report was prepared on the matter the factory and many workmen's dwellings would be erected. But he had no objection to the Committee proceeding in the matter. Alderman Parker seconded, saying that that was the first opportunity the city had had of presenting a town-planning scheme. Assuming that the district would some time come into the city, he thought that they ought to lose no chance of making the district as good as possible. The motion was carried.

A National Memorial Bridge.

The blow that was aimed at London by the Bill to give a new lease of life to Charing Cross Railway Bridge will prove a blessing in disguise if it speeds up the scheme which in one form or another has now been advocated for at least half a dozen years. It is obvious that the "oxide Behemoth" has no friends, and is a permanent hindrance to all improvement in this the very eye and centre of London. On the other hand, the vision of a great Imperial highway from Trafalgar Square to the south bank of the river and beyond is universally approved, and Mr. Lewis Hind's happy suggestion in 'The Daily Chronicle" that a war-memorial chapel to those "who fell in the great War of Freedom" should form the centre of the scheme has already received wide support. Very little can be done, except in the way of preparing plans and estimates, until normal times return, but at any rate the public will expect the various public authorities to come to some agreement in the matter, so that no time shall be wasted after the war in preliminary negotiations. The London County Council, the two adjoining borough councils, and possibly the City Corporation, ought to co-operate in the work. It need not necessitate a very great expenditure, apart from the building of the new bridge, because site values on the southern side of the river will be vastly enhanced. The Royal Institute of British Architects and the London Society, among public bodies, have long been interested in the scheme, and its advocates are legion in the ranks of architects and great Londoners. It may be recalled that Waterloo Bridge was erected last century as a memorial to those who fell in the Napoleonic wars. But the proposal to make the new bridge and its approaches worthy of London and of the Empire needs no precedent to commend it to all Britons.

Dudley Town-Planning Scheme.

Dudley Town Council last week adopted a resolution stating that it was desirable that a town-planning scheme be prepared, and that the Public Works and General Purposes Committee or a special committee be empowered to make the necessary enquiries and report to the Council the probable cost and procedure. Alderman Cook, proposing the resolution, said the scheme would relate only to those portions of the borough not at present built upon. The borough consisted of 3,500 acres, of which about 1,000 were built upon. There were at least 1,000 acres in every respect eligible for development, and one of the objects of the scheme would be to make systematic allocation of areas most suitable either for industrial concerns or residential purposes. In no town in England was a planning scheme more desirable than in Dudley, and never in the history of the borough was there such an opportunity of securing its development.

OBITUARY.

Second-Lieutenant D. J. Gordon.

Second-Lieutenant Donald Jervis Gordon, Border Regiment, was the third son of the late Thomas Gordon, A.R.I.B.A., and Mrs. T. Gordon, of Sevenoaks and Eastbourne. He was educated at Lancing College, and in 1909 went to the Royal Institute of British Architects, where he gained the Travelling Studentship three years in succession. On the outbreak of war he joined the Public Schools Brigade, and received his commission in December, 1914. He went to the front in September last, and was killed while leading his platoon on the morning of July 3 or 4.

Captain Reuben Roberts.

Captain Reuben Roberts, Army Ordnance Department, killed on July 8, was the younger son of the late Mr. Reuben Roberts, and of Mrs. Roberts, of The Nook, Westminster Park, Chester. He was educated at King William's College, Isle of Man, and served his articles as an architect with Messrs. Lockwood and Sons, of Chester. He joined the Inns of Court O.T.C. in January, 1915, and obtained his commission in the Army Ordnance Department. He went overseas in October, 1915, and had since seen considerable service. His promotion was rapid, and last March he received his captaincy and the post of Deputy Assistant Director of Ordnance Supplies.

THE
ARCHITECTS' & BUILDERS' JOURNAL.

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A VIEW OF CHARING CROSS IN THE EARLY NINETEENTH CENTURY

(Showing Charles I. Statue and the Union Club).

THE ARCHITECTS' & BUILDERS' JOURNAL.

JULY 26, 1916. TOTHILL STREET, WESTMINSTER. VOLUME 44. No. 1125.

EDITORIAL.

IN opening the exhibition of war memorials last week, Dr. A. C. Benson, the Master of Magdalene, expressed neatly and tersely the spirit in which such memorials should be conceived and wrought. The essentials, he said, are beauty, dignity, simplicity, and force—an appeal that, going directly to the eye, darts a strong emotion to the heart; because we have to commemorate modest, faithful, loyal service, done with no flourish or vanity by thousands of simple straightforward people. That is the pervasive spirit of the nation. Dr. Benson's short but admirable speech conformed to it; and it would be strange indeed if our artists were to misinterpret it, or to remain uninspired by it. That it has markedly influenced, in greater or less degree, every memorial exhibited is a hazardous thing to say; but that is at least true of the general effect. Modesty and heroism, sorrow and fortitude, serenity and self-sacrifice, the dignity of noble death, all find fitting expression in one or another of, if not in all, the memorials that this competition has brought forth.

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Would there have been any manifest change in the type if the competition had been held after the war, when many who are at present debarred could take part in it, and would bring into it their intimate experiences of war, their close association with brave deeds and noble deaths? Conjecture on such a point is rather futile; but one may hazard the opinion that the many architects and other artists who are now on active service are acquiring, at least subconsciously, deeper impressions as to "life, death, and that vast forever," and must necessarily express them in any future work that they may be spared to do in the field of art. In what direction that work will be affected is clearly a question of temperament. For some men it will mean an accession of realism; for others, a recoil from it. But in both cases the first effects will tend to an exaggeration that, arising from exceptional circumstances, will surely give us something new and strange in art, which, whether for good or ill, will receive impulses that may affect aim and direction as well as mere style. This, however, is a matter in which speculation is necessarily rather vain. It is perhaps better to wait and see than to vaticinate.

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As we anticipated when we appended a note to the new order of the Minister of Munitions "to regulate or restrict the carrying on of building and construction work," the scare-headings in the lay Press have created a mild panic among traders, to whom, however, the new order should have come as a real relief from the uncertainty and dejection created by the earlier vague prohibitions. In fact, the new order may be regarded as a message of hope. It sets business going again. It removes all restriction on building work of which the total cost does not exceed £500 and in which the use of constructional steel is not involved, and it gives contractors the opportunity of showing cause why other work should be permitted to go on, and of obtaining a licence to proceed with such work as the Minister of Munitions sees fit to allow—a matter in which, as we have already placed on record, he has obtained expert advice and assistance. All this is made quite clear in the terms in which the order itself is expressed, and in the wording of the announcement with which it was introduced and which may be here usefully repeated: "It shall be lawful for the Minister of Munitions by order to regulate or restrict the carrying on of building and construction work, and by such order to prohibit, subject to such exceptions as may be contained in the order, the carrying on of such work without licence from the Minister."

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Nothing could be more explicit. Building is to be regulated and restricted, not stopped. Instead of wandering, more or less surreptitiously, round the back stairs, the contractor can now boldly march up to the front door to state his case, in the full assurance that it will receive careful attention. That is surely a vast improvement on former conditions. It substitutes movement, however slow, for absolute stagnation. Where there is movement there is life, and while there is life there is hope. Before very long, the movement will be greatly accelerated; for we may rest assured that the Government fully realises the gravity of restricting the building of the factories and warehouses which should be got ready for the expansion of British trade that is confidently anticipated as an immediate sequence of the triumph of the Allied forces—is indeed, already beginning, as an expression of our endeavour to manufacture for ourselves much that was formerly imported, as well as to capture enemy trade with neutral countries and with our own colonies and dependencies. No doubt, in cases in which it can be shown that the need is urgent, it will be more easy to obtain a licence than to engage the necessary labour.

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In one respect the order is not so good as it looks. It places no restriction upon work up to £500, and this seems to leave small house-property beyond interference. But the important question arises, How is the amount to be calculated? There is, as we know only too well, a veritably shocking dearth of dwellings, and at present rates, £500 will not pay for a pair, and would hardly cover the cost of repairs on a small estate. It seems, therefore, that for any project larger than the erection of a small dwelling it will be necessary to obtain a licence; and the necessity for working-class dwellings being even greater than that for factories the two demands will clash rather awkwardly. The

is a difficulty that will require very careful attention. Where the factories arise, there also should be dwellings for the workers; but to impose upon the factory-builder an obligation to house his workpeople is to anticipate an ideal social and industrial system such as, but for the examples of Port Sunlight and Bournville, would be regarded as impossible of attainment in this imperfect world; Robert Owen having demonstrated, once for all, at New Lanark, so we were repeatedly assured, its utter futility. Owen's scheme, however, magnificent failure that it was, had in it the seeds of success with respect to housing, and these are still germinating—at Liverpool, Birmingham, and elsewhere they have even come to full fruition.

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It would be rather surprising if this order of the Minister of Munitions were not put up for discussion at the half-yearly general meeting of the National Federation of Building Trades Employers, which takes place to-day (July 26) at the Old Ship Hotel, Brighton. It is not on the agenda, which was arranged some time before the order was issued; but as the chairman has the power to introduce any subject he sees fit, there is but little doubt that he will seize this opportunity to take the sense of the meeting upon a subject that is at least equal in importance to any of the items set down. These include the cognate proposal "that the Board of Trade be petitioned to consider seriously the inflated prices of all building materials," and a resolution asking the Government "to take steps to remedy this hardship." Unless those steps are clearly and definitely indicated, the resolution is likely to prove sterile; for it is upon such subjects that the Government is entitled to expect help and guidance from organised and influential bodies like the Federation.

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Another item of considerable importance that appears on the agenda is the following proposed resolution: "That this meeting considers that the present is an opportune time to revise our system of money, weights, and measures, so as to bring them into harmony with the metric system prevailing among the rest of the Allied Nations, in order to facilitate trade relations between them and us after the War, and requests the Administrative Committee to make representations on behalf of the Federation to the Government accordingly, co-operating if practicable with other bodies which are moving in this direction." That this reform has been for very many years advocated ably but unsuccessfully is no reason why it should not be again urged at a psychological moment when the arguments in its favour are more cogent than ever, and when the public (if not an overworked Government) will be more than ever disposed to give them a sympathetic hearing. It must not be forgotten, however, that the difficulties in the way of this very desirable change are so enormous that the prospect of bidding an affectionate farewell to the footrule is very remote. Vested interests so deeply commit us, in every direction, to our clumsy, wasteful, and inharmonious duodecimal system, that its sudden abolition would cause, at the outset, ruinous loss and inconvenience. Otherwise this reform would have taken effect half a century ago. But the Federation may at least drive another nail into the coffin of an effete old system that theoretically has little or nothing to recommend it.

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A writer in "Everyman" has been taken to task for saying that "house building is an absolutely protected industry, for houses cannot be imported into a country." His critic contends that, in effect, houses are imported, items representing a high proportion of the cost of house-building—such as steel and iron girders, timber, roofing material, ironmongery, glass, toilet appointments, and decorative material—having come abundantly from abroad, while the raw material exclusively provided at home embraces but little more than stone, brick, sand, and lime. Facts favour the critic, who could have greatly extended his list of imports; but where is the grievance, and what is the remedy? It may be supposed that the evil arises from excess, and that the remedy therefore consists in curbing it. As a small island with a large population, this country must always be greatly dependent on imports; and the world's comfort and welfare are promoted enormously by an exchange of products in which one country sends of its abundance to meet the dearth in other countries. But the process is greatly abused, coals, as it were, being too often carried to Newcastle, granite to Aberdeen, slates to Wales. In the building trade we import numberless things which we could advantageously produce at home, if only the State, the educationist, the employer, and the employee would engage in economic co-operation to keep out foreign goods.

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To this want of co-operation our dependence on foreign supplies could in very many instances be directly traced. Home labour disputes have, at one time or another, brought to this country from abroad almost every article used in constructing or furnishing a building, from basement to tower-top. Such disputes have been ruinous to home industries in many ways, but mainly through the enormous waste from the unproductive duration of the dispute, and the continual two-fold rise in the cost of labour, more money being paid for less work. British labour disputes have given the foreigner his largest opportunities, and have made him a present of several flourishing industries; for it is much easier to let him in during an emergency than afterwards to get him out. Not that labour is alone to blame. For the sake of a paltry saving on the estimates, Government departments and municipal corporations have greatly encouraged foreign manufacturers to the detriment of home industries, and the public have too often acted in the same spirit.

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A case of much importance to employers was heard on July 18 in the Court of Appeal. A judge of the City of London Court, sitting as arbitrator under the Workmen's Compensation Act, 1906, had held that a scaffolder who had met with an accident when he had been working for Messrs. George Trollope and Sons for seven weeks was entitled to compensation computed not on his average earnings for that period but upon the average weekly earnings of a man of the same grade in the same district. Against this decision Messrs. George Trollope and Sons appealed, their contention being that the amount of compensation due, in accordance with the Act, was 50 per cent. of the man's average earnings for the seven weeks of his employment by them. Their appeal was unsuccessful, the Court holding that the dominant principle to be observed was contained in the provision of the Act that "average weekly earnings shall be computed in such manner as is best calculated to give the rate per week at which the workman was being remunerated." It was held by the Court, in effect, that this rate should be computed upon a broader and less casual basis—that the true average wage is not that which a man may earn for a short period which (as during the shorter hours of labour of builders in winter) may fall short of the man's average earnings, or which, on the other hand, may (as in the instance of an agricultural labourer's extraordinarily high wages in harvest-time) rise considerably above his general average. But the Appeal Court studiously refrained from offering any definite guidance as to how the average should be ascertained, and there's the rub.

HERE AND THERE.

NEVER have I read the newspaper so eagerly and so diligently as I have since the War began. Morning and evening I assimilate my quota of so many columns of news, reports, comments, interviews, opinions, conjectures, and the mysterious and unconvincing talk of that hardened sinner, the neutral observer: added to all of which is the solid dose of the magazines. In this way I have become intimate with places and things that were wholly unfamiliar to me. Especially I have read about the havoc wrought by the Germans in Belgium, but, in point of artistic quality and charm, nothing I have yet come across is equal to the article by M. G. Lenotre in the Paris "Temps," and now translated into English in the "Architectural Review" for July. So excellent is the matter that it cannot have too wide a circle of readers, and as to condense it in any way would but spoil it, I take the liberty of reprinting the whole of it here. It is entitled "Nieuport and the Drama of Flanders."

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In the days when that country had tourists and bathers, the *tortillard* which served Belgium's coast from La Panne to Ostend midway in its journey crossed the bank of a wide channel bordered with tall, slim, wind-twisted trees, and dived into the crooked street of a town having neat low houses, halting a moment on the quay of a little port where, mirrored in the colourless water, two or three great boats drowsed, their sails spread in the sun. Then the tramway, following its route, crossed, by means of stout locks, five canals which seemed to recede across the green plain till lost to sight. It was a rare thing for a stranger to alight at that station; its name was obscure, and the names of the river which formed the port and of the canals which met in it were equally so. The guide-books scarcely mentioned them, much less solicited the traveller's attention on their behalf. The town was called Nieuport; the river was called the Yser, and that signified nothing to anyone. What should tourists be doing there? The little glimpse of river and town to be had through the carriage door sufficed for the most conscientious of them.

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Strange to say, the dwellers in this little village, so disdained, showed a singular pride in it and attachment for it. It has often been remarked that the regions toward which Nature has not been generous, and which owed their prosperity to the slow and patient toil of man, have a stronger hold on the hearts of their inhabitants than countries have which are famed for the beauty of their site and the splendour of their climate; where, nevertheless, it seems that life should be so easy and so sweet. The people of Nieuport loved their flat humid country, the low-hanging mist of their meadows, the dull waters of their humble stream whose source was in France, and where lazy barges glided, level with the grass. Their town, with its sunken houses, which could not be entered without bending the head, its white lanes, its over-wide squares, the fishy odours rising from the harbour and blended with the insistent fragrance of tar and wood from Norway, seemed to them a more enchanting spot than any other in the world. They lived in comfort there, and a citizen who had two thousand francs of revenue could never succeed in spending his income.

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The people of Nieuport, then, cherished their city for its present obscurity—also for its glorious past, of which they were proud, and a reverence for which was fostered in them by one of their fellow citizens, M. Dobbelaer. M. Dobbelaer, town clerk, guided, sustained, and encouraged by his old burgomaster, M. Roo, had for many years piously inventoried all relics connected with the city's history, had removed the stains of centuries from the inscriptions on old dwellings and the iron numbers indicating their venerable age, had identified the great tombstones whereon might be read the sonorous names of Spanish officers whose bones kept company, beneath the church pavement, with those of Flemish burghers of heroic times. Through his researches he had formed, at the Hôtel de Ville, a museum of local relics, where were shown the series of communal seals dating from the twelfth century, a fishing ordinance issued by the Admiral Maximilian of Burgundy and painted on a panel of wood, rare engravings, cut stone from vanished monuments, coins found in the earth, among them some admirable gold pieces of the time of Charles V. The jewel of this museum was a triptych excellently painted by a Flemish "primitive," showing with exactness the city harbour in the fifteenth century. M. Dobbelaer had classified, filed, catalogued the archives of the community, seven hundred years old, with such method and such ardour that no other similar collection in the world, even the most celebrated and the best endowed, could rival his in excellence and clearness of arrangement. The town clerk had accomplished these things without resources, without outside help, simply by the miracle of his devotion to the past. He had done better still—he had communicated his archæological fervour to all his fellow citizens. He set himself developing in the school-children a taste for the decorative arts as well as a respect for the ancient stones which have seen history. He took them on expeditions to the ruins of old ramparts buried in sand and vines, explained to them the antique collegiate church, with its squat bell-tower, made them admire the heavy and dismal donjon of the archdukes, the old pointed lighthouse of whitish brick, where the Spaniards formerly built fires of straw; he associated them with his discoveries, one of which overwhelmed his ardent heart as with the joys of paradise—a magnificent old pavement of polished tile under a pure Gothic vault! This good and learned man had thus aroused in the souls of the Nieuport people such an intelligent affection for their noble and yet humble city that they looked upon it with a feeling not less than that of the Ypres burghers, so justly proud of their famous Drapers' Hall, or even that of *ces messieurs* of Furnes for their celebrated square, with its fantastic gables and open-work spires. The whole city bore marks of an educated taste which sustained the traditions of centuries of beautiful architecture, and nothing further was done there without consulting M. Dobbelaer; no house might be rebuilt but after plans drawn according to engravings of "the period," executed in relief, and submitted to the municipality. He himself took care that in restoring edifices there were employed only ancient bricks, not moulded in the manner of to-day but cut as of old, after the processes and with the tools of former times. He experienced in the spring of 1914 great pleasure in the visit of a stranger travelling as an artist through the country, a gay youth who drew and photographed skilfully, following a singular calling —"architect of steeples." Because of this, he climbed all those in the region, at Dixmude, at Ypres, at Furnes, at Nieuport. People amiably furnished him with useful information for his researches, and were delighted to drain beer-glasses with him. At the beginning of summer the "architect of steeples" disappeared.

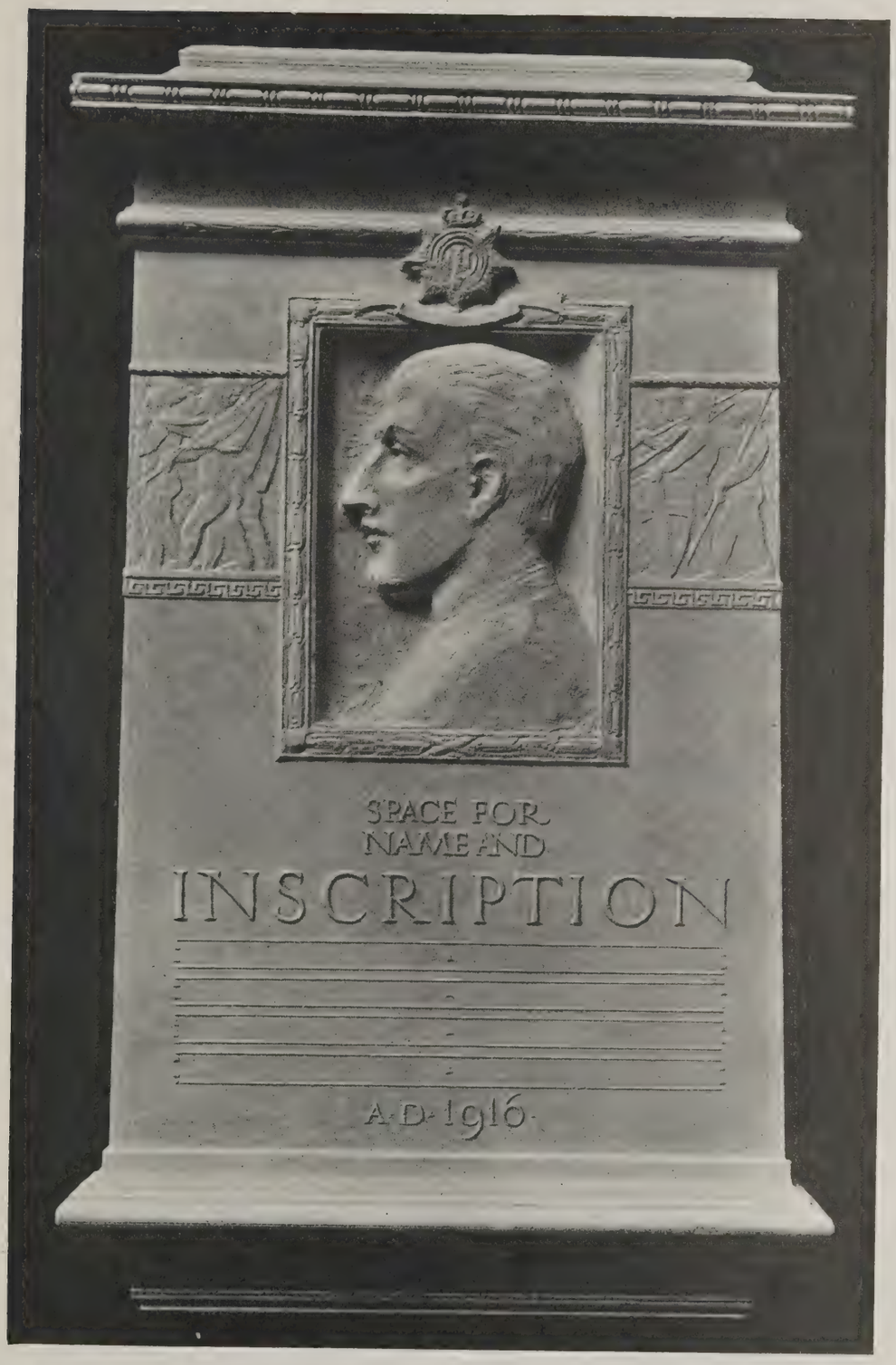
* * * *

Some days later the fearful hurricane breaks upon Belgium; a sheet of fire, a hail of steel; the cities crumble; Louvain is in flames, then Dinant, Aerschot, Termonde, Namur. They who fly before the invader report terrible things; beautiful *hôtels de ville*, with their lacework spires, are swept away by shell-fire; churches, sculptured like reliquaries, are showered with oil and destroyed. Heavy heels crush on the pave



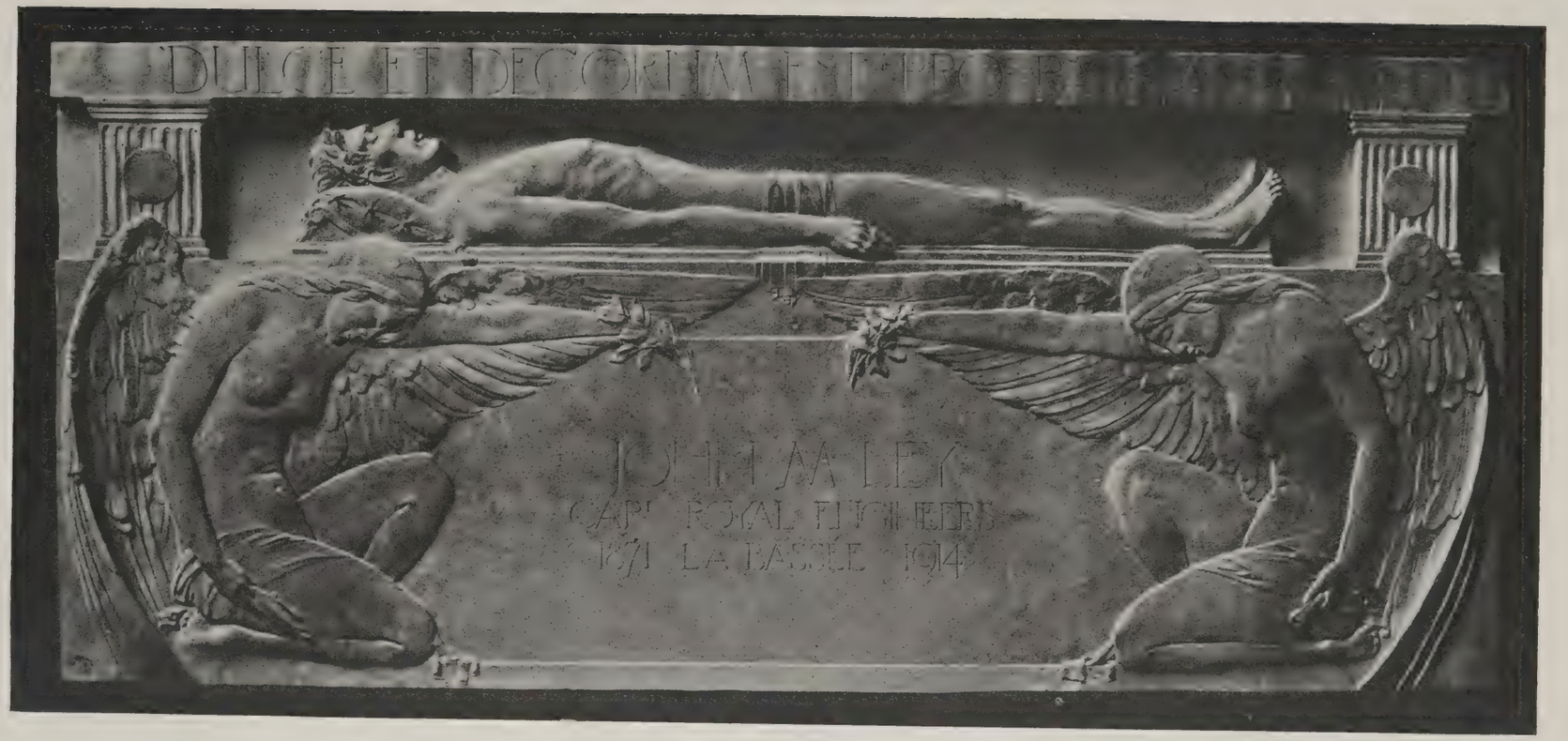
MONUMENTS. XX.—SKETCH MODEL OF MONUMENT TO MEMBERS OF THE STAFF OF THE LONDON COUNTY COUNCIL WHO FALL IN THE WAR: PLACED FIRST IN THE CIVIC ARTS ASSOCIATION COMPETITION (CLASS I.).

BY E. A. RICKARDS, F.R.I.B.A., AND HENRY POOLE, R.B.S.



MONUMENTS. XXI.—PLASTER MODEL OF BRONZE WALL TABLET, PLACED FIRST IN THE CIVIC ARTS ASSOCIATION COMPETITION (CLASS II.).

BY ERIC BRADBURY.



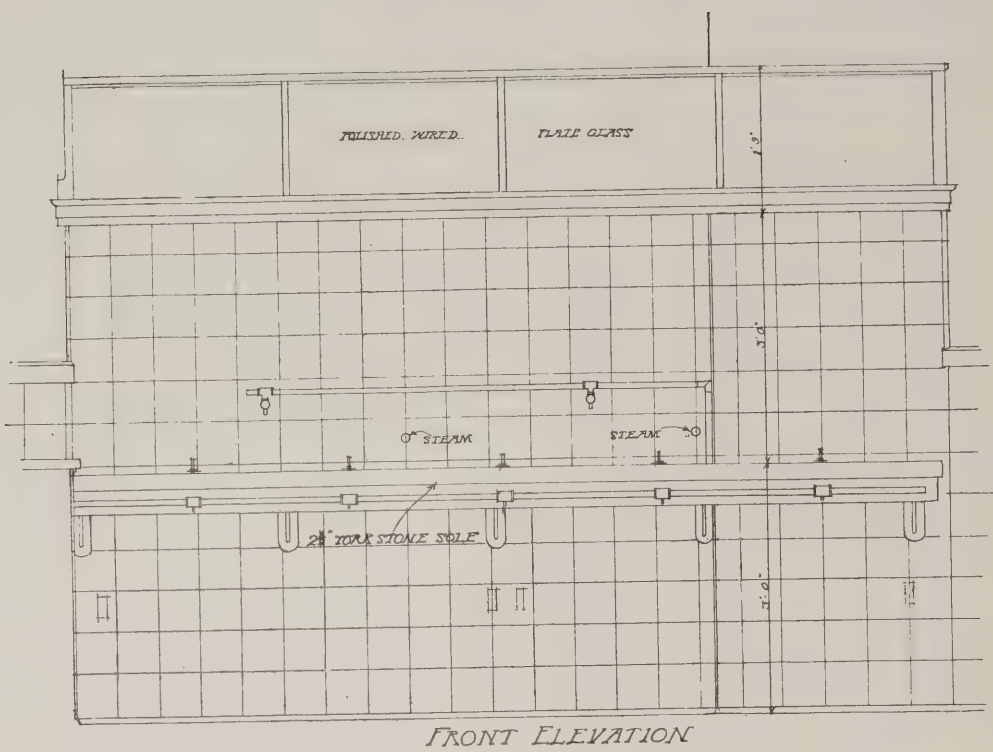
MONUMENTS. XXII.—DESIGN FOR BRONZE WALL TABLET, PLACED SECOND IN THE CIVIC ARTS ASSOCIATION COMPETITION (CLASS II.).

BY H. P. GILL AND R. F. WILSON.



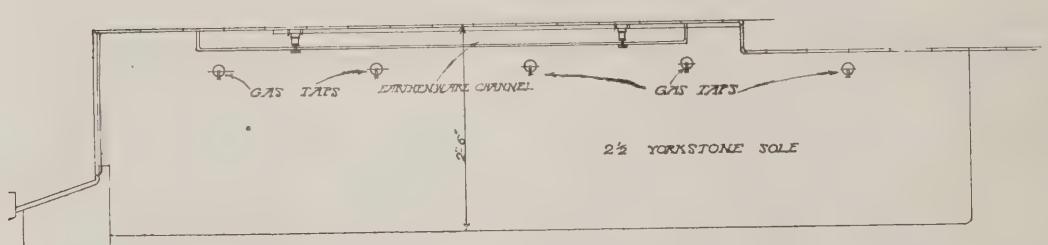
MONUMENTS. XXIII.—DESIGN FOR A MEMORIAL FOUNTAIN IN A COUNTRY TOWN, PLACED FIRST IN THE CIVIC ARTS ASSOCIATION COMPETITION (CLASS VII.).

BY CYRIL A. FAREY.

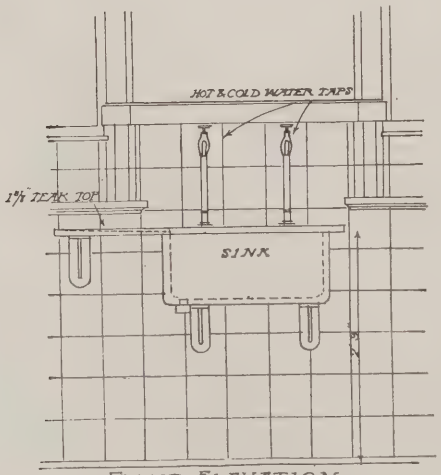


FRONT ELEVATION

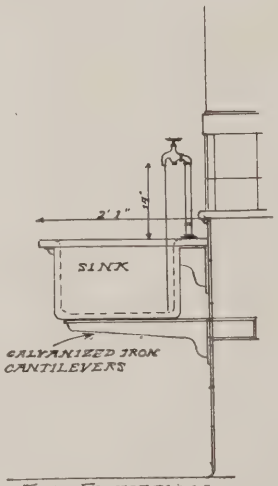
SECTION



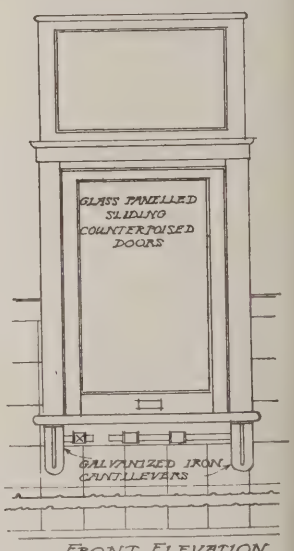
STONE BENCH WITH HOOD N°38 PLAN



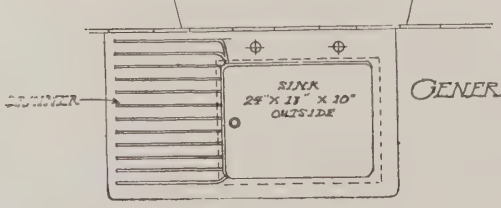
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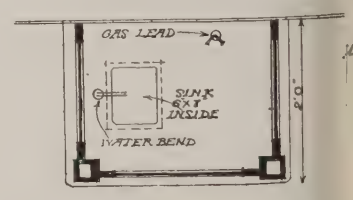


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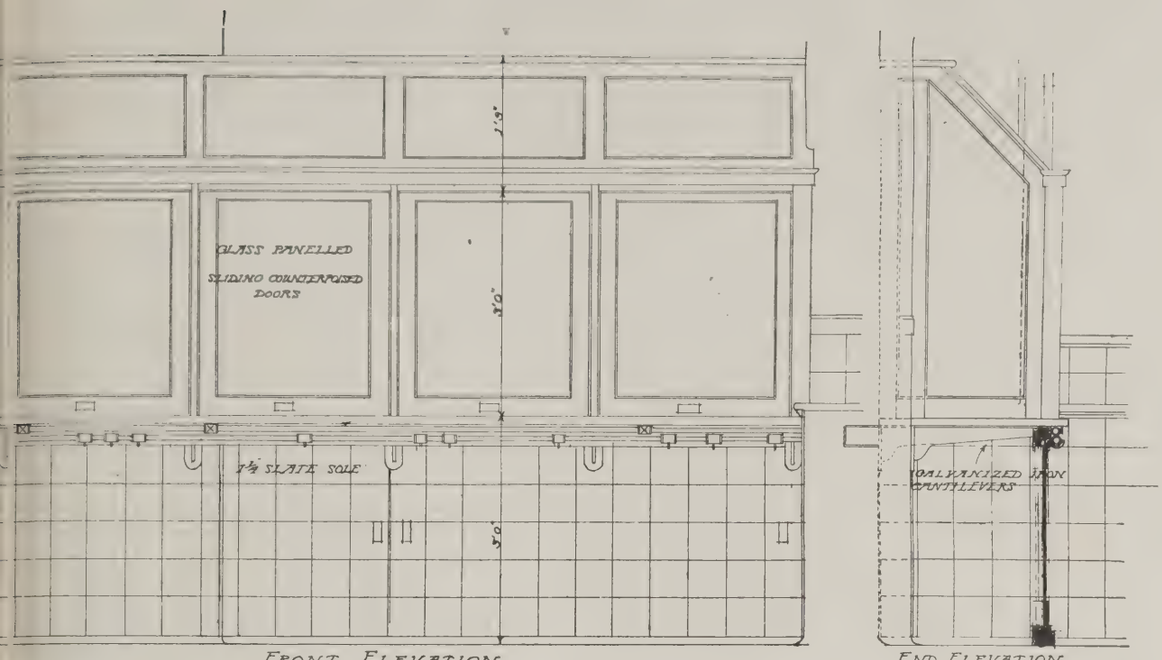
PLAN

GENERAL SINK N°40



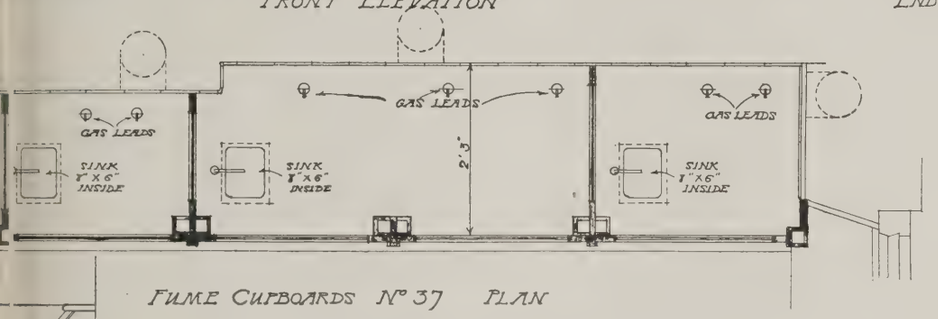
SCIENCE AND TECHNICAL BUILDINGS. VII.—FITTINGS IN CHEMIST

H. PERCY ADAMS AND

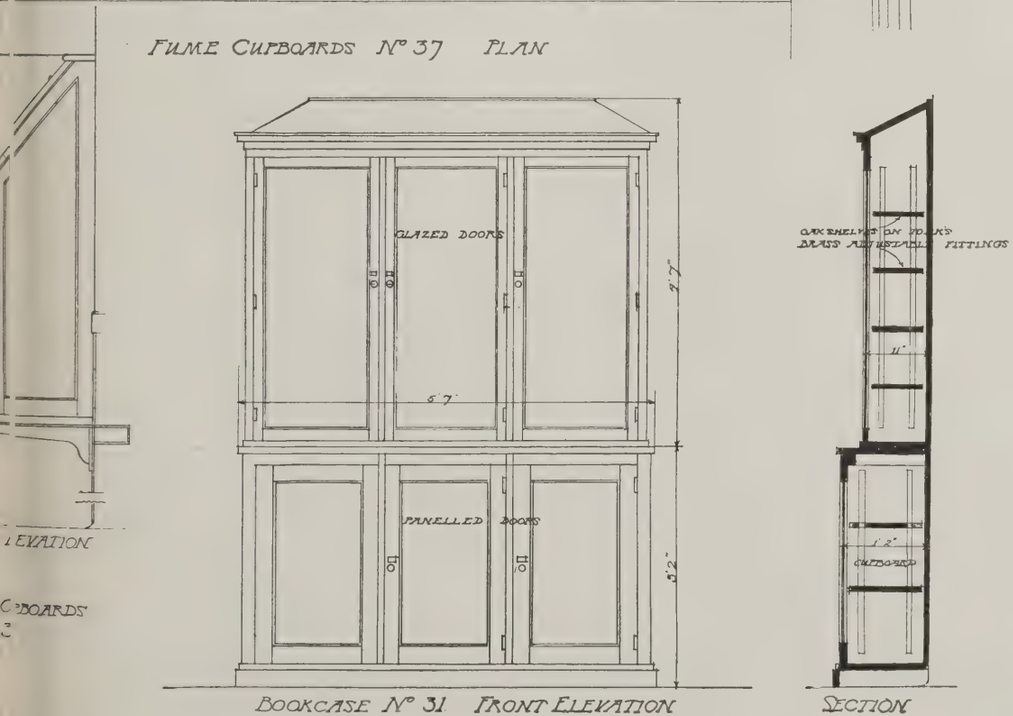


FRONT ELEVATION

END ELEVATION



FUME CUPBOARDS N° 37 PLAN



BOOKCASE N° 31 FRONT ELEVATION

SECTION

TORY, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.

HOLDEN, ARCHITECTS.

ments the remains of marvellous stained-glass windows; the Uhlans boil their soup over fires fed with early records and illuminated manuscripts; the divine tower of Malines serves as a target for heavy artillery! And suddenly a cry of horror arises, a lamentable cry: "The *Halles* of Ypres are on fire!" From the summits of Nieuport's towers can be seen, blazing like torches, all those beautiful belfries that once threw upon the pearly sky their lofty and delicate silhouettes, rising like slim poplars of stone against the horizon. Can one imagine the misery of the poor archæologist at the approach of this infernal invasion? His city, his dear city restored through his impassioned care, the work of his whole life, his only thought, his beloved, exposed without possible defence to the rage of these brutes! Picture the despair of "Cousin Pons" at the approaching roar of a cyclone shaking the old house where for many years he has garnered the frail relics of the Art of the Past. What can be done, what miracle implored, to stay the scourge? We shall know, some day, if it was not through M. Dobbelaer, through the documents so patiently deciphered and arranged by him, that Father Kogge, the keeper of Nieuport locks, found the century-old and forgotten sluice-gate whose opening allowed the sea to invade the Flanders plain. A desperate but sure recourse—rather the mud than the enemy! And the plain became mud, then a lake, then a sea; the water rose, hurrying without pause, submerging pell-mell the batteries, trenches, blockhouses, stores of grain, prosperous villages, cultivated fields. All disappeared: the region of the Moëres was destroyed, yet saved. Nieuport, on the contrary, was lost; for the baffled enemy avenged their repulse upon the city, after the fashion in which they had avenged former ones upon Arras and upon Reims. From afar, without risk, without glory, as without profit, they directed against her the storm of their incendiary missiles. From the high dunes, one night, could be seen above the deserted town a red light growing and overspreading the sky. The furious sea-wind spread the flames; here and there, over the countryside, other fires were kindled—they were the burning farms, the great rich farms of the fertile Flemish land. And in the central furnace sank away one after another the Spaniards' lighthouse, the squat belltower, the Hôtel de Ville, with its museum, its neat cabinets, its "pieces" so fondly arranged and labelled; the ancestral dwellings restored with such fidelity, the Halles and their campanile—all, all, all! . . .

* * * *

To-day, Nieuport-the-Noble is a heap of calcined stones, a mass of wreckage where may be found scarce a trace of streets, squares, or buildings. And in the approaching hour of reckoning, in the fateful account, it will be found that almost equal with the cries of mothers, wives, and orphans are counted the sobs of the gentle archæologist, his heart wrung and bleeding with the cruel memory of all those poor treasures which he had saved from the pitiless pursuit of the ages, but could not protect from the Huns.

UBIQUE.

THE PLATES.

Civic Arts Association Competition for War Memorials.

THE prize designs, and some others, submitted in the competition for war memorials instituted by the Civic Arts Association are now on exhibition in the smaller gallery at the Royal Institute of British Architects, 9, Conduit Street, W. The exhibition is open till July 29, from 11 to 7, and admission is free. We reproduce in this issue four of the most interesting exhibits. Chief among these is the design by Mr. Rickards and Mr. Poole for a monument proposed to be set up in the members' courtyard of the new London County Hall in memory of those of the Council's staff

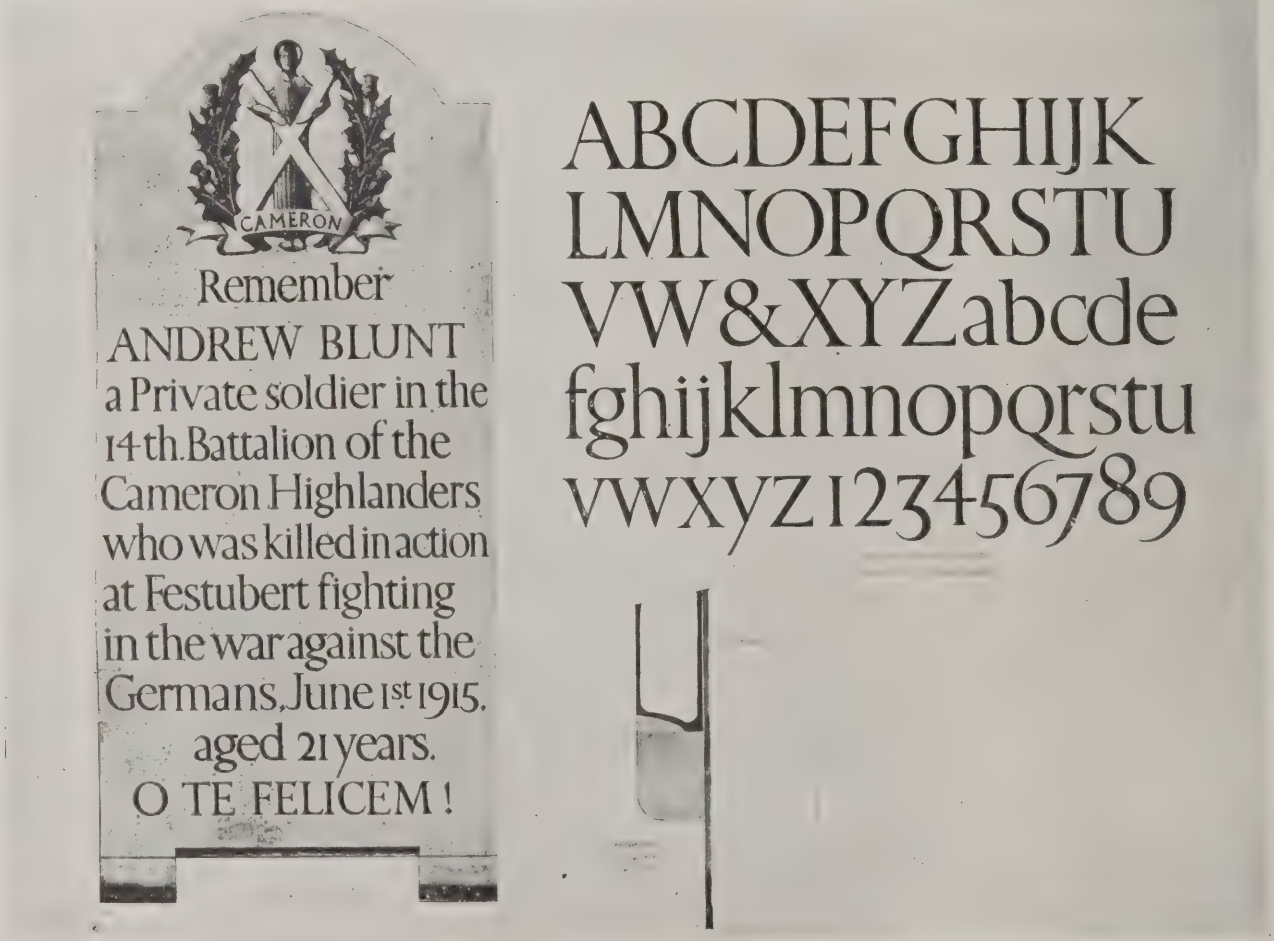


CHEMISTRY LABORATORY, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.
H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

who fall in the War. This design is shown by a magnificent drawing in lithographic chalk and by a sketch model in plaster, which we illustrate. The first prize was £50, and the anonymous donor made it a condition —rather an unfortunate one, we consider—that the monument should have a religious significance. In the prize design this end is very happily achieved by the treatment of the female figure holding a cross. There was no undertaking on the part of the Council to make use of any of the schemes submitted, but we think a great opportunity will be missed if this fine design is allowed to remain as a sketch only. It is a really noble monument. Mr. Eric Gill and Mr. Charles Holden secured second place in this Class for a monument showing a base of the "Burghers of Calais" order supporting a bronze group of Christ scourging the moneychangers out of the Temple, though we fail utterly to see the appropriateness of this, either to the War or to the County Council building. The third award in this class was to the design by Mr. Alan Wyon and Mr. Stanley Ramsey, a design embodying a fine circular pedestal, but marred by a rather crude female figure holding a flame on high. In Class II., for a design for a wall tablet to the cast in bronze, the first prize (£20, given by Messrs. I. Singer and Sons) was awarded to Mr. Eric Bradbury for the very pleasing piece of work shown on our plate; the general lines are good, the lettering is excellent, and the central relief well arranged, though, in our opinion, too deep. The second prize in this class was awarded to Mr. H. P. Gill and Mr. R. F. Wilson for a design that is full of rich sculptural quality, as may be seen from our plate. The only criticism of it which we have to make is that the recumbent figure of the man is inordinately long, and the flanking angels are rather too insistent. The first prize for a wall tablet in marble or stone was awarded to Mr. Eric Gill, whose design is illustrated below. The lettering is pure if a little insipid. The other prize design which we illustrate, Mr. Cyril A. Farey's for a fountain in a country town or village, is interesting, though not of any outstanding merit, except for the idea embodied in it.

King's College for Women, London: Chemistry Department.

The chemistry department, which occupies about two-thirds of the first floor of the laboratory block, consists of two main laboratories (each approximately 36 ft. by 36 ft., and each having accommodation for twenty-four students working at one time), a large lecture-room, with preparation room, research laboratory, miscroscope room, balance rooms, store and dark room, lecturer's private room and laboratory. Applied chemistry is taken by the college students in the third year, and the problems dealt with in this part of the course include: The analysis of air, water, milk, butter, fuels, and other materials in use in the house and laundry; the interpretation of the results of such analyses; the chemistry of laundry work and other cleansing processes; the nature and quality of textile fabrics in common use; the constituents of foods, adulterants, and preservatives; the scientific principles underlying the care and preservation of the chief materials used in the structure and equipment of a house. Closely connected with this work in applied chemistry is that carried out in the kitchen laboratory, a separate department on the second floor, consisting of a laboratory (appropriately 36 ft. by 30 ft.), balance room and storeroom. Details of the fittings in the chemistry laboratory are shown on the double-page plate, and further details will be given on another similar plate in our next issue.



FIRST PRIZE DESIGN FOR WALL TABLET IN MARBLE OR STONE (CIVIC ARTS ASSOCIATION COMPETITION.)

BY ERIC GILL.

LEGAL.

Consulting Engineers' Claim for Fees for Building Cement Works.

Maxted and Knott v. The Aberthaw and Rhoose Portland Cement Co.

July 10-18. Official Referee's Court. Before Mr. E. Pollock.

This was a claim by Messrs. Maxted and Knott, consulting engineers, of Hull, against the Aberthaw and Rhoose Portland Cement Co., of Cardiff, to recover £5,355 11s. 2d. balance of account alleged to be due for fees in connection with the building of defendants' cement works at Rhoose, in Glamorgan.

Mr. Cautley, K.C., and Mr. Barrington Ward appeared for plaintiffs; and Mr. Inskip, K.C., and Mr. D. Hogg for defendants.

Mr. Cautley, for plaintiffs, stated that the claim was made upon a charge of 5 per cent. upon the cost of the building, machinery, and power plant of the defendants' cement works at Rhoose. The plaintiffs had been unable to obtain information from the defendants as to the actual cost of the works, and they had estimated it in consequence for the purposes of the claim at £140,000. The sum of £2,000 had been paid on account. At the beginning of July, 1911, the defendants told the plaintiffs that they had received all the tenders for the work, and they wanted a consulting engineer to advise them and supervise the erection of the works and see them started running. A contract was then entered into between the parties for the plaintiffs to undertake the work for a commission of 2½ per cent. upon the cost, having regard to the position which the work had reached at the time. The preliminary work had been done for making cement by what was known as the dry process, but after the contract was made the defendants decided to adopt the wet process, and from that time the plaintiffs did the whole of the work, getting out fresh tenders, and as the basis of the whole thing was altered they contended that they were entitled to the usual charge of 5 per cent. The way in which they put their case was that if the original contract was for 2½ per cent. they were entitled to be paid for the extra work, which was equal to another 2½ per cent. The defendants at first refused to give the figures, but since the action was commenced the plaintiffs had had inspection of the defendants' books, from which they made the cost £120,911 18s. 3d. instead of £140,000, the sum originally claimed upon, and they claimed their commission of 5 per cent. on the former sum, a total of £4,401 3s. 2d. in all. The defence was briefly that the whole of the claims were covered by the 2½ per cent., and they (the defendants) denied that there had been a change in the process. They said the total expenditure was £97,576, and admitted that the plaintiffs were entitled to 2½ per cent. upon the sum less £2,000 already paid. Then they alleged that one of the contractors was a German named Polysius, and that he was only entitled to be paid on the plaintiffs' certificate, which certificate had not been given. The plaintiffs could not, therefore, it was submitted by defendants, claim upon the money paid to him. There was no suggestion that the work had not been properly done. Evidence was given on behalf of the plaintiffs that their charges were fair and reasonable, and in accordance with charges in the engineering profession.

Mr. Inskip, for defendants, said his clients admitted some small items claimed. As to the claim for 5 per cent commission on the outlay instead of 2½ per cent., a new contract could only be supported by implied agreement, and no such implied agreement had been proved. Mr. Maxted did not make any case that the agreement was departed from. He agreed that the contract still bound him. He (counsel) submitted that there was no case upon the agreement. The letters in the case could have no such construction as the plaintiffs put upon them. It was not material therefore to discuss the amount of work that had been done, because it was regulated by the original contract. It was quite possible that, as often happened, the contract expanded into an enormous amount of work. It was immaterial for the purposes of this claim that the amount of work done was great or small.

Mr. D. E. Roberts, of Cardiff, consulting engineer to the defendant company since the plaintiffs in 1914 had been owing to other work unable to act in that capacity, gave evidence. He said there was no definite rule as to the fees to be paid to an engineer. It was purely a matter of negotiation, and 5 per cent. was a very liberal percentage which should cover everything.

The Official Referee, in giving his decision, said that in his opinion Mr. Maxted knew perfectly well what preliminary work had been done by the defendant company before he came on the scene. Knowing that, he said his fee for doing the work from the beginning was 5 per cent., but since the defendants had done this preliminary work he would do the job for 2½ per cent. As to the extras, most of them had been dealt with by the parties themselves.

In the result, the Official Referee gave judgment for the defendants on the claim, stating that Mr. Maxted was to be paid 2½ per cent., not 5 per cent., on the contract price of £113,000. A sum of £2,000 had already been paid to the plaintiff; and out of the money paid by the defendants into court a sum of £336 would be returned to them. The defendants would pay the plaintiffs' costs up to the time of the payment into court, and the plaintiffs must pay the defendants' costs subsequent to the period of the payment into court.

Scaffolder's Claim Against Builders: Computation of Average Weekly Earnings.

Cox v. Geo. Trollope and Sons and Colls and Sons, Ltd.

July 19. Court of Appeal. Before the Master of the Rolls and Lords Justices Pickford and Warrington.

In this case the respondents, Geo. Trollope and Sons and Colls and Sons, Ltd., builders and contractors, appealed from an award of the Judge of the City of London Court, sitting as the arbitrator under the provisions of the Workmen's Compensation Acts upon the question as to the proper computation of "average weekly earnings."

Alfred James Cox, the applicant, of Allertree Road, Fulham, was employed by the appellants as a scaffolder at the wage of 8½d. an hour, and while working for the appellants on January 27, 1916, at certain works in Finsbury Circus he was caught by a piece of iron which was being lowered, and he fell with the iron to the ground, a distance of 13 ft., and cut his eye and sprained his ankle, and by reason of that he became incapacitated. He had been employed by the appellants for seven weeks during the winter, and his average weekly earnings during that period amounted to £1 7s. 8¾d. Before the judge in the Court below evidence was given that scaffolders were normally employed for short spells by various employers, but that there was generally enough work to keep them employed on different jobs. The average weekly earnings of a scaffolder in that locality were £1 15s. 9½d. a week, as longer hours were worked in the summer than in winter. The Judge at the City of London Court held that it was impracticable to compute fairly the rate of remuneration of the workman by reference to his earnings during the seven weeks, having regard to the fact that the average during one year was the dominant principle to be applied, and that the average earnings varied in the summer and winter. He therefore awarded Cox 17s. 11d. a week compensation, being 50 per cent. of the average weekly earnings of a scaffolder in the same district. From this award the employers appealed upon the ground that as Cox had been engaged in the same work with them for seven weeks the proper way to ascertain his average weekly earnings under Schedule I. paragraph 1 (b) of the Act was to add up the wages received by the man during the seven weeks and divide by the number of weeks.

At the conclusion of the arguments of counsel, their Lordships held that it was the duty of the County Court Judge to say whether it was impracticable to compute the compensation as directed in paragraph 1 (b), and if he had not misdirected himself that Court could not interfere. In the present case there had been no error in law such as entitled them to interfere, and they therefore dismissed the appeal with costs.

Mr. Ellis Hill appeared in support of the appeal; and Mr. Rigby Swift, K.C., M.P., and Mr. Lever for the applicant Cox.

Sub-Contractor Sues Contractor.

Richardson v. A. N. Coles, Ltd.

July 19. Official Referee's Court. Before Mr. Pollock.

This was an action arising out of a dispute between a building contractor and sub-contractor in relation to the erection of huts at a permanent camp in the North. The plaintiff was Mr. L. W. Richardson, builder, of Bournemouth, who claimed from A. N. Coles, Ltd., building contractors, of Plymouth, the sum of £158 7s., balance of charge for constructing a number of huts at a camp. He also claimed damages for breach of contract, and the defendants counter-claimed £68 for work which they alleged they had had to do to complete the plaintiff's work after he had left it.

The plaintiff's case, which was supported by his and other evidence, was that in December, 1914, the defendant, who had a contract to erect huts and other buildings at a camp, employed him to build 600 huts at £17 per hut, the defendant agreeing to supply him with the necessary materials, which would be delivered as near as possible to the job. He also agreed to advance money for the wages of the men. In pursuance of the contract the plaintiff proceeded to erect forty-four of the huts, but on April 29, 1915, Messrs. Coles's representative on behalf of the defendant company refused to supply the plaintiff with any further materials or wages, and ordered him to leave the camp. He was thus, he alleged, prevented from completing his contract. The total account sent in by him was for £1,196 6s., and of that amount he had received £1,037 6s.

The defendants said that they had already paid the plaintiff too much. They admitted items, the total value of which, they said, was £975 12s., which left a balance in their favour upon the sum which the plaintiff had received.

The plaintiff, in the course of his

evidence, complained of the delay in the delivery of materials, which he said kept his men dodging about from one class of work to another. To this the men raised objection, as they did also to the difficulty in getting water. These things, he said, made the men restless and discontented. That and the question of payment of wages gave rise to animated arguments when defendants' representative came to the camp.

Several witnesses were called on both sides, and in the result,

The Official Referee held that there was no evidence of the contract having been for the whole of the 600 huts, and therefore there could not have been any breach. As to the claim for extra work, the plaintiff was not entitled to more than the defendants had admitted and that had been overpaid. On the question of delay he decided that there had been no more delay than any contractor might have expected, and that there had been no stoppage of work in consequence. Plaintiff was not entitled to recover anything and there was a balance due to the defendants on the over payment and the work left unfinished. He gave judgment for the defendants on the claim and on the counter-claim for £88 7s. 6d.

Judgment was entered for the defendants accordingly, with costs.

WAR AGAINST BAD HOUSING.

Sir Leo Chiozza Money, M.P., in an article in the "British Weekly," reiterates his contention that the housing of the people is really a very simple question indeed, because the making of a house is merely the working of routine trades which are well known and which can be very rapidly exercised. In this war we have in some places put up houses like a flash for the use of war workers, just as we have made rifles and ammunition galore. To rehouse all the people of the United Kingdom would be child's play as compared with what we have done in this war for the purposes of war. After all, fifty million people only require about ten million houses, and in quite a few years you could easily construct ten million up-to-date, healthy, beautiful houses. Why, then, is it not done when we know well that the existence in this country of millions of unhealthy, crowded houses means the death every year of so many people that the casualties of bad housing are actually worse than the casualties of a great war? We do not build houses, because, as I have said, we follow the conception that somehow or other enterprising persons will arise and put up good houses. We cling to this belief, although we know that a thousand vested interests prevent the demolition of existing bad houses, just as they prevent the construction of good new houses.

I have been reminded of these things (Sir Leo continues) by the receipt from an American correspondent of some exceedingly interesting particulars of the standardisation of building construction in his country. By standardising parts you can form in concrete one thousand, or ten thousand, or a hundred thousand window-frames or staircases or chimneys. The staircases, which in the average house are so indifferently made of poor material that creaky stairs are almost universal, could be turned out in concrete as easily as shelling peas. Suppose you decide to make 100,000 or 500,000 small dwellings. You can have them of one type or ten types, and you can have one or ten different types of such details as the staircase. The making of the standard parts, in material so good that it will last indefinitely, offers no difficulties to the practical man, if he is given a chance to do the job. The one million people normally employed in the building trade of the United Kingdom, working on such lines, could deal with houses at the rate of hundreds of thousands a year. And even by ordinary methods of construction they would do magnificently if properly directed to national ends.

The erection of buildings really makes the material framework of life. The process either means beauty and happiness or ugliness, ill-health, and disease. All buildings are public, because their appearance and position mean everything to the public. We can if we will have both beautiful houses and healthy houses. The housing question is only a problem as long as we care to make it that by leaving the processes to blind chance, and by passing laws not to say what people shall do, but what they shall not do. By a proper acquisition of healthy areas outside our present townships and by a series of liberal housing laws, directed in their application by a Housing Commission calling to its aid our most famous architects and engineers (who would be proud to be associated with the work), we could empty out the crowded and unhealthy ways which now kill every year so many hundreds of thousands of people, and which deprive of health and strength many millions of those who survive. After Armageddon, then, we will prosecute other wars, and one of them shall be a war upon bad housing.

[We are glad to see that Mr. Leo Chiozza Money has taken up, with his accustomed vigour, the enormously important question of housing, and that he lays due stress on the necessity of making houses beautiful as well as healthy. Indeed, we think he will agree with us that the constant contemplation of beauty makes for health.]

RECONSTRUCTION OF DUBLIN.

At the adjourned quarterly meeting of the Dublin Corporation, held on July 18 in the City Hall, Dublin, the Lord Mayor referred to the deputation which recently waited on the Prime Minister in connection with the reconstruction of the city. The deputation was introduced by Mr. John Redmond, accompanied by the city members and Mr. Joseph Devlin, M.P. The Premier received them very courteously, and the case for the Corporation was put before him by himself (Lord Mayor), the Town Clerk, and Mr. Clancy, M.P., who made a very eloquent speech. They got a very encouraging and very substantial concession from the Prime Minister, and he thought the best thing they could do would be to let the matter go to a special meeting of the Corporation, at which they could discuss the special report of the deputation, a copy of which he submitted. Both the deputation and the Irish representation present came away quite satisfied that their demands were going to be fully met. The Bill was already printed, and in a very short time important powers would be granted to the Corporation. The Lord Mayor also dealt with the visit of the deputation to the Exposition in Paris. They were, he said, received by one of the Ministers and the Chief of Police of the city. An offer had been made to the deputation to lend the plans to the Dublin Corporation for a month or so, in order that they might see what was being done in places where reconstruction was a big problem undecided.

"MODERN ARCHITECTURE."

In the course of correspondence under this heading in "The New Age," Mr. Austen St. B. Harrison recapitulates some home truths that the reactionary critics of architecture persistently ignore, and incidentally he demolishes some of their inveterate fallacies—as, for example, their strange and wholly unwarrantable contention that only Gothic architecture is thoroughly English, every other kind being of alien extraction! Mr. Harrison writes:

In his letter on "Modern Architecture," Mr. Haselwood states that architects "have been taught for generations to utterly ignore everything traditional, to forget, in fact, that once upon a time Englishmen tried to express themselves in their own native way." This is a libel which was often uttered in the "Battle of the Styles" by the supporters of the Gothic revival. Moreover, through the literary championship of such influential writers as Ruskin and Morris, this opinion is very widespread and is re-echoed by a host of enthusiastic amateurs who, in their "Guide to Architecture," will devote a hundred pages to the praise of Gothic for every half-dozen given up to a prejudiced criticism of the work of the last three centuries.

We are all agreed that there was a continuous building tradition for some eight hundred years culminating in Tudor Gothic. But there was also an equally consistent evolution of architecture from the Elizabethan to the Victorian period. It is Messrs. Bell and Haselwood's contention that the one is English and the other is not; that the former is an expression of the Englishman's "intense pride and love of country," and the latter the work of men who "formed their ideals in following the imaginings of alien builders." But surely both traditions are alien by birth; both are derived from Classic Rome; the intermediate steps in the one case are French and English Romanesque; and in the other a parallel development in Italy and a passage through France. Moreover, the mediæval builders were constantly in touch with the Continental tradition through the organisation of the Church, the foundation of English houses by French monastic orders and the employment of French master builders, such as William of Sens. Similarly in the history of Renaissance architecture we trace an evolution which from time to time receives strong impulses from abroad through the visit of a Wren to Paris or a Cockerell to Greece. The difference between the alien influences in the two cases is one of degree only. The production of books, ranging from the German pattern-books to the folios of the Society of Dilettante and the increased facilities of travel as well as the many other benefits of our civilisation have naturally exerted an enormous influence on our national architecture. These channels of communication and fresh inspiration were only unused by the Gothic builders because unknown; and it would be ridiculous to attempt to eliminate their effects from the architectural expression of our race. It is these obvious impulses from abroad which catch the eye of the shallow observer so that he fails to see the traditional care which has been handed down and enriched by one great architect after another. In the fierce Victorian wrangles on the subject of architecture this tradition was lost sight of in a fog of vituperation. It is the aim of the schools to rekindle a respect for this tradition, and there are already signs of success.

NEWS ITEMS.

To Capture the German Spelter Trade.

It was stated at a meeting of the Swansea Corporation Highways Committee last week that a Swansea company was spending £500,000 in extending its works near Swansea in order to capture the German spelter trade.

Proposed New School for Nottingham.

The Nottingham Education Committee have been asked to approve the purchase of about three and one-third acres on the Broomhill estate, at the corner of Piccadilly and Brooklyn Road, Bulwell, at 1s. 6d. per yard, for the future erection of a school for about 1,200 scholars.

Proposed War Memorial Church.

It is stated by the Rev. H. M. Webb Peploe, Senior Chaplain (Church of England), 1st Corps, B.E.F., that, with the approval of the Deputy-Chaplain-General, the chaplains are going to ask all ranks on active service to contribute towards a fund for building a church at Bordon Camp, near Aldershot, in memory of the great European War, and as a memorial to their brave comrades who have fallen.

A New Yorkshire Colliery.

Arrangements are in progress for sinking the shafts of a new colliery at Armthorpe. Buildings are being erected in connection with the installation of the machinery necessary for sinking, so that the work can go forward at full speed immediately the war is over. The statement that this colliery is to be the largest in South Yorkshire has aroused much interest in Doncaster and district, for it opens up the prospect of increased trade, larger population, and greater expansion in many directions.

Channel Tunnel or Bridge.

A Channel tunnel, we are opportunely reminded by a writer in the "Daily Chronicle," is not the only means which has been suggested for linking France and England. Thirty years ago a proposal was seriously put forward—backed by Sir John Fowler and Mr. B. Baker, of Forth Bridge fame—for the construction of a gigantic bridge from Cape Grisnez to Folkestone, a distance of 24½ miles. The plans provided for 120 piers, with spans 1,640 ft. in length, at a height sufficient to allow the passage of the largest imaginable vessels. It was estimated that a million tons of steel would be required in the construction.

A Tile Drain Monopoly.

One of the most important measures passed during the session of the Prince Edward Island Legislature which has just been prorogued was "The Drainage Act," which provides for the lending of money by the Government to farmers to assist them in draining their lands. The Government will give the services of an engineer free for the purpose of laying out the drain. Another measure passed was a Bill incorporating the Prince Edward Island Brick and Tile Company, giving the company a monopoly for twenty years of the manufacture of tiles for drainage at a price to be fixed by the Government, on condition that a sufficient quantity is manufactured to supply the needs of the farmers. It is estimated that there are about 200,000 acres of land, mainly in the western part of the Province, which can be greatly increased in fertility by the adoption of tile drainage. Tile making is a new industry in this Province, although brick making has been carried on. Prince Edward Island, a province of Canada, in the Gulf of St. Lawrence, is 150 miles long by four to thirty-four miles broad. It is separated from Nova Scotia and New Brunswick by the Strait of Northumberland. It is divided into three counties, and its capital is Charlottetown.

St. Mary's Church, Leicester.

The Church Council have decided to undertake the urgent work of taking down the upper part of the spire of St. Mary's Church and rebuilding it, at an estimated cost of £600. The work will be carried out by a local firm.

Christ's Hospital Offices.

New offices in London for the Christ's Hospital Foundation have been erected at 26 and 27, Great Tower Street, at a cost of £25,607, from designs by Mr. Arthur Blomfield, F.R.I.B.A. The site belonged to the Hospital, having been bequeathed to it in 1686 by John Fowke.

Cracks in the Tower of London.

Since September last the officials of the National Physical Laboratory, Teddington, have been measuring, by means of three micrometers specially made, the growth of cracks in the buildings of the Tower of London. Although in some cases there are indications of a progressive displacement, in others the rate of displacement is irregular. At only one place has the total movement in six months exceeded one-hundredth of an inch, so that no serious disturbances have been detected. At one station near the river front there have been movements which suggest the existence of an effect due to the rise and the fall of the tide.

New Bridge Over the Conway.

A bridge which has been erected over the Conway, near Dolgarrog, is of steel, on concrete and masonry foundations, which are laid on piles. The centre span, formed of steel girders, is 140 ft. in length, and 14 ft. 6 in. above the flood level of the river. It rests on steel trestles erected on the masonry and concrete foundations. There are two approaches in steel work, each 130 ft. long, also supported on concrete foundations. The new bridge, which carries a duplicate line of 15 in. pipes, will ensure the water supply to Colwyn Bay and Glan Conway being regularly maintained.

The Gladstone Memorial in Edinburgh.

Arrangements for the placing of the Gladstone Memorial in Edinburgh upon the selected site at St. Andrew Square have been approved by the Streets and Buildings Committee of Edinburgh Town Council. Matters have been finally adjusted with the Scottish Committee, and the work in connection with putting the memorial in position will begin as soon as the Alexander and Bucephalus monument has been removed, the new site for the latter being now in course of preparation in the quadrangle of the City Chambers. The Gladstone Statue is to stand in the street on the west side of the St. Andrew Square, and will face southward.

Birmingham Town Planning Scheme.

At a meeting of Birmingham City Council, on July 14, the Lord Mayor submitted the report of the Town Planning Committee, recommending that they be authorised to apply to the Local Government Board for authority to prepare an amending town-planning scheme in respect of an area comprising about 247 acres of land included in the East Birmingham town-planning scheme. He said the committee merely asked the Council for leave to prepare a scheme, which would be submitted to the Council for approval. The Council gave their approval to the recommendation. The effect of the proposed amendment is to revise certain roads so as to make them fit in with the roads in the adjoining area of North Yardly, which at the time the original scheme was prepared was not in the city.

Visit to Southampton's Oldest Buildings.

The final day's programme of the British Archæological Association's annual Congress included inspections of several of the oldest churches of Southampton. The visitors were especially interested in St. Michael's, which contains traces of Norman or Saxon architecture. They examined the old plate, the lectern, the chained Bible, and other books. Subsequently they went to Bitterne Manor, and explored it. They also viewed the Roman remains on the site of Clausentum, and visited Pear Tree Green Church. In the afternoon they went to Netley Abbey.

Donington Hall.

We had all (writes a special correspondent of the "Morning Post") eagerly looked forward to the visit to Donington Hall, where the gilded youth (some of the gilt worn off) of the German Army and Navy were supposed to be living in mystery and magnificence. The most hardened journalist would have felt the thrill I did when the gate with its festoons of barbed wire was passed, and the famous house was seen in the hollow among slow-curving uplands crowned with trees of vast antiquity. The hall, it is true, has no architectural significance. It is built in the most debased form of the Palladian style. It was built by "Utility Brown" in 1780; for those who know what kind of an architect he was no further criticism is necessary. There is a lodge of excruciating design, like a bad doll's house in a mid-Victorian nightmare. But the deer park, 900 acres in extent, is the finest in England, and the herd of 400 head is the oldest of all whereof the history can be traced continuously from mediæval times.

Forthcoming Arts and Crafts Exhibition.

The Arts and Crafts Exhibition Society are organising an exhibition to be opened in the first week of October at Burlington House. A guarantee fund of £1,500 is being formed for the preliminary work, under a finance committee of which Mr. W. Lee Matthews is chairman and Mr. C. H. St. John Hornby hon. treasurer. The president and council of the Royal Academy have granted the free use of their galleries. In each room will be constructed temporary interiors, which will be decorated and furnished by different artists. Within these interiors will be arranged individual works selected for their fitness to the scheme of decoration adopted. There will be a large municipal hall, the sides divided into bays, each decorated in harmony with an agreed scheme. Another gallery will be fitted up as an ideal council chamber. The central octagon will be divided into a series of apsidal chapels, decorated by individual artists or groups of artists. In the entrance gallery will be constructed a panoramic suggestion for the reconstruction of Trafalgar Square. Mr. E. S. Prior, A.R.A., 1, Hare Court, Temple, is hon. secretary of the Exhibition Society.

SOCIETIES AND INSTITUTIONS.

School of Architecture, University College, London.

The Session 1915-16 in the School of Architecture at University College was brought to a close on July 6. Architecture certificates have been awarded to Mr. I. Reicher, Miss Charlotte C. Nauheim, and Mr. J. A. Calderon.

Incorporated Church Building Society.

This society held its monthy meeting on Thursday, July 20, at the society's house, 7, Dean's Yard, Westminster Abbey, S.W., the Hon. Sir E. P. Thesiger, K.C.B., in the chair. Grants of money were made towards building new churches at Easton, All Saints, Dorset, £225, and Unstone, St. Mary, near Sheffield, £80, rebuilding the Church of St. Mary, Sculcoates, Hull, £120, and towards repairing the churches at Dean, All Hallows, Beds., £25; Mount, Holy Cross, Cards., £40; Rotherhithe, Holy Trinity, £30; Scredington, St. Andrew, Lincs., £25; Winthorpe, St. Mary, Lincs., £25; and Witchford, St. Andrew, Cambs., £40. The following grants were also paid for works completed: Llandrillo-yn-Rhos, St. George, N. Wales, £225; Breadsall, All Saints, Derby, £100; Sutton-in-Holderness, St. Michael and All Angels, £100; Wigginton, St. Giles, Oxon., £10; Hoxton, St. Anne, £100; Small Heath, St. Gregory, Birmingham, £120; Gorse Hill, St. Peter, Manchester, £150; Newton-in-Makerfield, All Saints, Lancs., £170; and Llangammarch Wells, St. Cadmarch, Brecon, £100. In addition to this the sum of £102 was paid towards the repair of six churches from trust funds held by the society.

Liverpool School of Architecture.

Though necessarily more limited in scope, the level of excellence is well maintained in the exhibition of drawings by members of the School of Architecture of the University of Liverpool, which was held last week at Liberty Buildings, School Lane. The exhibition included the Holt scholarship drawings and Lever prize designs for laying out on town-planning lines the central area of Birkenhead. The first of the Lever prizes in architecture was awarded to Mr. S. C. Foulkes, whose scheme, embracing the whole area extending from Hamilton Square to Woodside Ferry, provides for a low-level Mersey Tunnel station directly opposite the ferry, in place of the present Hamilton Square station.

The second prize winner, Mr. Gordon Hemm, establishes the same direct communication with the ferry, but leaves the Tunnel station in its present position, and balances it on the other side of the roadway with a large hotel. Mr. Hemm is also the winner of the Holt travelling scholarship of £50, and when the war is over will pursue his studies in Europe. Already he has done a considerable amount of good work in the way of measuring a great number of buildings and the production of original designs. The latter includes one for courts of justice, which he intends to exhibit in the first round for the Prix de Rome in architecture, the final of which, it will be remembered, was won two or three years back by another student of the School of Architecture, Mr. H. Chalton Bradshaw. Mr. Hemm distinguished himself in the examination for the final certificate of the School of Architecture by the production of a very fine design for a sculpture gallery. Both the last-mentioned works were shown in the present exhibition, as well as a design by Mr. Foulkes for a picture theatre.

Among other features were colour drawings and designs for a British school at Rome, and for a terminal railway station facing a large place by Mr. F. Jenkins, diploma student; and numerous examples of first year work, notably some Italian studies in the orders and designs for war memorials.

OBITUARY.

Professor Eugène Bourdon.

Professor Eugène Bourdon, B.A., formerly Director of Architectural Studies in the Glasgow School of Architecture, was killed in the battle of the Somme.

Captain N. W. Hadwen.

Captain Noel Waugh Hadwen, who was killed in France on July 1, was, at the time of joining the Army in September, 1914, in partnership with Mr. E. Guy Dawber, F.R.I.B.A.

Captain A. E. Corbett, F.R.I.B.A.

Captain Alfred Edward Corbett, F.R.I.B.A., who died in France on July 1, was partner in the firm of Woodhouse, Corbett, and Dean, architects, of Manchester. At one time he was a lecturer upon architecture and building in the School of Technology and in the Municipal School of Art, Manchester, and in 1912 became an inspector of technical schools to the Board of Education.

M. Rik Wouters.

The death has just taken place in Holland of the young Belgian sculptor and painter, M. Rik Wouters, whose bronze statue "Attitude" attracted considerable attention at the Royal Academy early last year, as did his portrait busts at the Grosvenor Gallery. When Belgium was invaded, Wouters, who was then only twenty-eight, was among the first to be called to the colours, and took part in the defence of Liége and Antwerp. Since then he has been interned near Amsterdam, where he died after a long illness.

Mr. R. Milne.

Mr. Robert Milne, clerk of works to the London County Council, who died on July 14, at the age of sixty-one, was a native of Rhynie, Aberdeenshire. He served his apprenticeship with Messrs. Mitchell and Morgan, Aberdeen, and afterwards was foreman to his uncle, Mr. John Gall, of Gall and Walker, Ltd., Aberdeen, who erected, under his supervision, the Public Library, Ashley Road School, the extensions to Ferryhill School, etc. He subsequently became an inspector to the Aberdeen Town Council, and superintended the erection of the new fire station and other public buildings. For some time Mr. Milne worked in America, and on return to this country he received the important position of Inspector of Works at the Assouan Dam, Upper Egypt, under the administration of Mr. Maurice Fitzmaurice, C.E., now Sir Maurice Fitzmaurice, who afterwards was appointed chief engineer to the London County Council. After the completion of the Egyptian work Mr. Milne was appointed clerk of works to the London County Council, under his former chief. Among the more important work he has supervised was the erection of Vauxhall Bridge, the tramway tunnel from the Embankment to Holborn, and the Wandle Bridge.

"RARE EARTHS" AND GAS MANTLES.

At the annual meeting of the Society of Chemical Industry in Edinburgh last Friday, a paper was contributed by Mr. S. J. Johnstone, B.Sc., on the position of the British rare-earth industry, one of the most important branches of which is the manufacture of incandescent gas mantles.

Notwithstanding the fact that the most valuable deposits of monazite sand so far discovered are in territory under British protection, that is, in Travancore, these deposits and the gas mantle industry dependent on them, were before the war virtually under German control. The sand was obtained in Travancore at a cost of about £4 per ton and shipped to Germany, for the use of the manufacturers of thorium nitrate and incandescent gas mantles in that country. Only a limited quantity of the sand was allowed to be sold to gas-mantle manufacturers and others in the United Kingdom, and from them a price of about £36 per ton was demanded and obtained. For most of the mantles made in England, however, thorium nitrate made in Germany was used. The only other important deposits of monazite sand are in Brazil, and these also are controlled by the German thorium ring.

Mr. Johnstone, in his paper, said that the manner in which the Germans obtained practical control of the Travancore monazite deposits was most interesting and significant. A lease for working these deposits was granted some years ago by the Travancore Durbar, with the approval of the Government of India, to the London Cosmopolitan Tin Mining Company, a condition being that the concession could be transferred only to a British company. Immediately afterwards a further company was formed to work the deposits and contracted to sell the whole of its output to a German firm. Soon after the outbreak of war it was found that the whole of the Preference shares and 11,000 of the Ordinary shares of the last-formed company were held in trust for the Auer Company, of Berlin.

The India Office had now decided that in future all the directors of the company working the concession must be British-born. German contracts had been cancelled, and the company must be ready at all times to sell monazite sand direct and at a fair price to British firms. A second company, Thorium, Ltd., had now obtained a twenty years' lease to work 150 acres in Travancore for monazite sand and was now exporting the sand and manufacturing thorium nitrate from it at works in in this country.

During the past year a good deal of Travancore monazite had been shipped to the United States, and many manufacturers of gas mantles in this country had been getting their supplies of thorium nitrate there. At least four of the British makers, however, were making thorium nitrate from Travancore sand in quantities sufficient for their own requirements, and there is no reason why British makers should not supply in the future a large part of the world's requirements of thorium nitrate from the Travancore monazite. Nevertheless the new British industries might need some form of Government assistance, either by tariff or otherwise, since the German manufacturers would still be able to obtain Brazilian monazite sufficiently rich in thorium to enable them to compete with the British industry.

ELECTRICAL NOTES.

Ediswan Hosgood Utensils.

A new line of electric cooking utensils has been placed on the market under this name by the Edison and Swan United Electric Light Co., Ltd., Ponders End. They are discriminated from most in that they are of stoneware and from many in that they are of British manufacture. Their construction renders them inexpensive, and as they can more easily be kept clean than metal vessels, they are very suitable for heating liquids, such as milk. The heating is effected by band elements attached round the lower part of the utensil, and a standards bayonet cap adaptor is fitted rigidly on the side instead of the usual projecting pins. The ends of the resistance wire are connected to this adaptor, the use of which enables connection to be effected from the electric supply by means of a length of flexible wire and an ordinary lampholder. This has a distinct advantage, in that the lampholder is a standard article, whereas two-pin plugs are made in several gauges.

Most of the utensils are constructed for single heat, but others are fitted with two adaptors side by side, for two-heat control, it being only necessary to move the connecting lampholder from one to the other. It is claimed that the efficiency of the band element is fairly high, the polished finish compensating for any heat losses that may occur by radiation from the external surface. As the utensils are made of insulating material and the elements are on the outside it is impossible for the vessel to become "alive" or for internal shorts to take place, whilst there is little tendency for the stoneware to crack owing to the uniform heating. The utensils include casseroles, which can be placed on the table, thus avoiding waste of heat, boiling jugs, food warmers, shaving pots, etc.—in fact, a complete range of useful household vessels.

In this matter of household utensils there was certainly much room for improvement, and it is gratifying to find that electricians are effecting it, even as they have accomplished many other reforms in the direction of elegance of shape and fitness to purpose.

"Verilux" Glassware.

The advent of high candlepower and high efficiency tungsten lamps has very largely caused these sources of light, combined with diffusing glass, to supersede inverted arc lamps in order to provide artificial illumination as near as possible to daylight. The chief part of the problem lay in the development of suitable glass for diffusion and reflection. Many such glasses have been produced and the effects can be varied by varying the two factors involved, namely, the electric lamp in relation to its shape and candlepower, and the glass in relation to its shape and quality. Previous efforts in the direction of daylight quality of light were directed chiefly to the treatment of the source of the light, but the present method is to treat the emitted light in order to produce the equivalent of daylight.

It is fairly obvious that this is more probably the most satisfactory method, because, apart from the difficulty approximating any artificial source of light to daylight, there is no certainty that such approximation will remain constant, owing to its delicacy. On the other hand, the approximation of the tungsten lamp and a special glass is a stable one, and therefore, when the composition of the glass has been correctly determined, the practical and commercial conditions of the problem are secured. It is claimed that this is the case with the new three-ply "Verilux" glass recently introduced by the General Electric Co., Ltd. The three layers comprise an inner colour-screening medium, a centre diffusing medium, and an outer clear glass which gives the necessary strength. Light transmitted through this glass emerges as near as possible of the same quality as daylight, and without glare. Globes or bowls of any shape or size can be made, but the best results are obtained with deep or spherical bowls, which permit of practically all the rays being transmitted through the glass.

The loss of light due to absorption is practically negligible owing to the high efficiency of the Osram and Osram Atmos type lamps which are used with the "Verilux" fittings, and even a slight loss would be compensated for by the commercial value of artificial daylight. It is aptly pointed out that there are large numbers of trades, apart from drapers' retail and wholesale establishments, where at present colour matching can only be carried on during the winter months for a few hours each day, so that artificial daylight would be of far greater commercial value than at first sight might be thought. The same remarks apply to museums, art galleries and studios. There is also a field for such lighting in the house, where the complaint is often raised by the ladies that their colour schemes are entirely spoilt in the evening by the electric light, to say nothing of fancy needlework, which usually has to be dropped when daylight is over.



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THE ARCHITECTURAL ASSOCIATION: PRIZE AWARDS.

The A.A. School of Architecture completed its session on Friday last, July 21, when the awards for the year were announced and the prizes distributed. Owing to the general condition of affairs at the present time, the proceedings were quite informal, and were held in the school studio, in which were exhibited the drawings executed by the students during the past year.

Following is the list of prizes for the session 1915-16: First Year Prize, books, Jean Godwin. Second Year—First prize, £10 10s., books, W. Bollansee; second prize, £5 5s., books, V. J. Wenning; third prize, books, K. S. Meager; prize for general improvement, F. A. McEvoy. Third Year — Studentship, value 25 guineas, W. E. de Souza; recommended for Jarvis Scholarship, value £40, W. P. Wigglesworth. School of Design—Andrew Oliver prize, value £5 5s., F. P. M. Woodhouse; second prize, value £2 2s., C. J. Brandon. Certificates for Association's Two Years' Course—H. E. Mills, K. S. Meager, W. Bollansee, F. A. McEvoy, W. J. Wenning.



LATE CONTRACTS.

BUILDING.

July 26.—**ROOFING. Manchester.**—Renewing patent glazed roofing at the carcase market, Water Street, for the Markets Committee. Particulars from the City Architect, Town Hall, Manchester. Deposit 10s. 6d.

July 29.—**PLASTER WORK, ETC. Balgownie.**—Mason, carpenter, slater, and plaster work connected with dwelling-houses in Balgownie Village, near Bridge of Don. Particulars from Watt and Cumine, Advocates, 8, Golden Square, Aberdeen.

ENGINEERING.

August 1.—**BOILER HOUSE. West Hartlepool.**—Erection of boiler house at electric power station, for the County Borough of West Hartlepool. Particulars from Nelson F. Dennis, M.Inst.C.E., Borough Engineer and Surveyor, Municipal Buildings, West Hartlepool. Deposit £1 1s.

PAINTING.

July 26.—**PAINTING, ETC. Manchester.**—Painting and decorating at the city art gallery, for the Art Gallery Committee. Particulars from City Architect, Town Hall, Manchester. Deposit 10s. 6d.

No Date.—**PAINTING. Bolton.**—The Committee of the Bolton Infirmary and Dispensary invite tenders for painting. Particulars from Albert E. Briscoe, Secretary, Bolton Infirmary.

No Date.—**PAINTING. Ystradmynach.**—Painting and decorating the cinema. Particulars from T. O. Price, Beech Tree Hotel, Ystradmynach.

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, August 2, 1916. Volume XLIV. No. 1126.



DETAIL OF PAINTED WALL DECORATION AT "DEYSBROOK," LIVERPOOL.

BY ALFRED STEVENS.

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 2, 1916. TOTHILL STREET, WESTMINSTER. VOLUME 44. No. 1126.

EDITORIAL.

A WRITER in the "Leicester Daily Post" asks, "What better celebration of peace could we have than the beautification of our dear old town?" He quotes, too, a statement by the London correspondent of the same paper that "the building and destroying of bridges, and the encircling of the metropolis with boulevards, the refashioning of public squares, are all recognised topics of conversation." These, we are very willing to believe, are true portents. Architects, we know, are taking the keenest possible interest in such topics, and the newspapers, stimulated by the surprising phenomenon of the rejection of the Charing Cross Bridge Bill, are giving more attention than ever before to civic art. Whether the newspapers lead or merely reflect public opinion does not very much matter. We suppose that the movement is reciprocal. In any case, it rebuts the ignorant assumption that the demand for betterment proceeds from "a few æsthetic faddists and visionaries."

* * * *

Faddists, rightly so called (and the opprobrious label is often grievously misapplied), are no doubt to be found in every movement, and that so fascinating a subject as civic art can be kept free from them is beyond hope; but they are certainly not typical of it; and they have their uses—they commonly run far in advance of the main body and come to grief in the blind alleys, pitfalls, and quagmires that then become plain for avoidance. Visionaries are in a different category. Their dreams of to-day become the actualities of to-morrow; or, rather, their dreams are realised in part, for there is generally a heart-breaking discrepancy in the detail. As a mighty robustious sample of the visionary, the Right Hon. John Burns is probably unique in statesmanship; and, indeed, it seems unlikely that so practical-minded a visionary has ever existed in any walk of life. That he works strenuously and unflaggingly for the fulfilment of his dreams, let the Town Planning Act testify. What he has dreamed of and done for London we all know; and in this galley he is still dreaming and doing.

* * * *

It was he who smashed the Charing Cross Bridge Bill; and he certainly had a lion's share in effecting the London improvements to which he draws attention in "Everyman" for July 21. "What is it," he asks, "that has made London increasingly a place to which tourists from all over the world, particularly the Continent, are coming increasingly? First, it is its cleanliness, its sanitation, its comfort, and, in recent years, the attractiveness that has been brought about by the enormous expenditure by public bodies, which for the last twenty-five years have certainly improved London from every point of view." He puts forward boldly an argument which we have used repeatedly but with a certain degree of hesitation. "I suggest," he says, "that beauty in a city is not a thing that materialists and cynics can lightly brush aside. Beauty in a great city is not only pleasing to the eye and consoling to the mind. It pays in solid cash." Before the war, he says, eighty thousand people came every day to London from all parts of the world, "to stay in our hotels, look at our libraries, see our museums, and enjoy the increasing delights, comforts, and amenities of this great city." There are still very many worthy but unimaginative persons to whom "it pays in solid cash" is the most potent appeal. Yet we would fain believe that, as a whole, ours is a nation of idealists; and Mr. John Burns—a journeyman engineer who became a Cabinet Minister, and who quotes Wordsworth, cites Canova's saying that it was worth while to come from the remotest corner of the earth to see a single arch of Waterloo Bridge, and exults over Constable's "splendid picture of that magnificent sweep from Westminster Bridge to Waterloo"—is in his own proper person a herald of hope for the democratisation of art for which Ruskin and Morris and Walter Crane laboured and prayed.

* * * *

To put the matter more plainly, it is with the British race as Milton long ago discovered and boasted—that it has infinite capacity for attaining the highest reaches in art, science, and literature. Mr. Burns also is addicted to superlatives, and his concluding paragraph is perhaps more true than modest and more rhetorical than either: "Do not let us have the present Charing Cross Bridge built," he exclaims. "We shall find a more excellent way for a better station on the Surrey side without damnifying the company in the least, and will add to the amenity and the beauty of one of the noblest sweeps of the Embankment on one of the noblest rivers in the world, peopled by the freest, and, in my judgment, the greatest community the earth has yet seen." Although the fervour has here some slight advantage over the syntax, no one will pretend that the last sentence bears reference to bargees, renowned as they are for freedom of speech and action. More to the point is the reflection that freedom is manifestly overdone when it is obnoxious to collective welfare, and that, on the other hand, it is less noble than itself when it meekly consents to be—for example—railway-ridden.

* * * *

We have great hopes for the democratisation of art, and we hold that, though art can be fostered

nd developed in the schools, it must have its roots n the home. We believe, also, with Professor ethaby, that it is a form of "tidiness." As our riends the French are rather fond of the word *ettoyage* in a similar application, it would seem that hey also deem it wise to keep in the background esthetic expressions which exasperate the average natural man because he does not understand them, r because he associates them with the unattainable earnings of the sentimentalists, or with the xcesses of those whom the undergraduate dubs 'fadding Hedonists." Good housing is the first nd most important step towards a higher and more eneral appreciation of the tidiness and comeliness hich blossom into art, or at least into amenity. et the home right, and the rest will follow. Not hat town-planning, or town-tidying, or memorial ridge-building should be postponed until we are ell stocked with presentable houses, that consumnation being as yet a great way off; for the one novement should accelerate the other.

* * * *

An ingenious argument against the perpetuation f Charing Cross railway bridge is that the signal ights on them make them a valuable guide to the ostile air-raider. It is therefore contended that his is in itself a sufficient reason for abolishing all uch bridges in towns; and, indeed, it is seriously roposed that all railways in towns should be conealed underground. There are many reasons why hey should be interned, and these seem to outweigh ompletely the reasons against the change. Among he latter the most cogent is the damage done to uildings by vibration of which the effects are felt at considerable distance from the track; and an even nore serious objection arises from the tapping of he moisture from the soil over a still wider area, and he consequent wholesale settlement of buildings hose foundations are thus insidiously sapped and rained. It will be recalled how severely St. Paul's athedral, and several fine old brick buildings in he Temple, have suffered from this cause. Taught y experience, tunnelling engineers may be able in uture operations to provide against such contingencies; and some degree of reparation may be nade to St. Paul's by removing the hideous lattice ridge at Blackfriars, and that other enormity the ridge across Ludgate Hill; both these monstrosiies destroying what should be glorious views of Wren's dome.

* * * *

Some of the more purely practical reasons for riving the railways underground in town and uburb would disappear with the supersession of team power for locomotion. In the meantime, our owns are disfigured and polluted with grime, disracted with noise from the shrieking of whistles nd the rumbling and clattering of the rolling stock, nd are put in constant peril from sparks and lames. It would be appallingly interesting to know ow many conflagrations have been started in this ay, especially in timber yards, which, for convenence of transport, are too often in dangerous roximity to the haunts of the snorting fiery dragon. o wonder that, as Mr. Quennell shows allusively in is article on "Rights of Light and Air," which ppears on a later page, the railway companies have een made to pay exorbitantly for the privilege of devastating and defiling town and country. Like Mr. Quennell, however, we are very far from condoning these exactions, which have their nemesis in ad service, high fares, heavy freights, and shockingly unarchitectural railway stations. To get fairplay in future, the railway companies should support rather than oppose town-planning schemes; nd the Charing Cross Bridge proposals offer them a rilliant opportunity.

With respect to Mr. Quennell's article on "Rights of Light and Air," it is for the moment hardly necessary to say anything more than that the thanks of the profession are certainly due to that gentleman for his public spirit in attacking inveterate abuses which act in restraint of building. He should not be left to do it single-handed. An eminent judge said, the other day, with respect to a different matter, that, generally speaking, the chief effect of an Act of Parliament is to create confusion. This proposition could be very forcibly illustrated from the administration of the law with respect to rights of light and air, which is confusing to the last extreme, and can be, and often is, turned into an engine of extortion. We think that the R.I.B.A. would be righteously employed in a determined effort to deal with it. No doubt the task would be heavy, but that is no reason for shrinking from it.

* * * *

As we anticipated in a note printed in these columns last week, and, as indeed, was inevitable, the restriction of building by the Ministry of Munitions was earnestly discussed at the half-yearly meeting of the National Federation of Building Trades Employers which was held at Brighton last Wednesday. It has been thought inadvisable to issue a full report of the debate, of which the upshot was that the Ministry is being asked to accept the services of the President of the Federation as an adviser with whom, we make no doubt, Mr. Newton would be very glad to co-operate and to share the responsibility of a very delicate task. Indeed, we are surprised that the suggestion of so obviously convenient and equitable a course should have been left to the Federation. If this proposal is accepted, as it certainly should be, a third appointment will be necessary to prevent deadlock. Why should not the reinforced concrete specialists be represented? It is a matter in which they are very deeply concerned.

* * * *

That most genial and enjoyable of art critics, Mr. C. Lewis Hind, has discovered the R.I.B.A., and thinks that it wants stimulating. He cannot understand why it is not as popular as the Royal Academy, why it does not hold an annual exhibition of "architectural drawings translated into a pictorial and attractive form," why it has never shown "a gay and gala-like model of the Hampstead Garden Suburb," why—but for his other whys, wise and otherwise, see page xi. We must all live in houses of some sort, although we cannot all afford to buy paintings: *ergo*, we all ought to be much more interested in the R.I.B.A. than in the Royal Academy. Clearly, therefore, all that is necessary to make the Institute popular is to run it on attractive lines—to brighten it up, so to speak. For, look you, "Architecture is the Parent of the Arts, and the one art in which every citizen is vitally interested." Remembering, however, that the Architectural Museum had to be deported from Tufton Street to South Kensington because of the constant wearing strain of coping with madding crowds of vitally interested visitors, we have certain misgivings about the chronic congestion of Conduit Street with excited throngs fighting their way to the translated drawings or to the gay and gala-like models of Hampstead Garden Suburb (or Gidea)—eager to ascertain whether the idiom was vernacular, or whether the gay and gala-like copies were faithful to the originals, which could be inspected at the cost of a twopenny tram-fare. We suggest that the gay and gala-like models would have a clearer title to that description if made musical on penny-in-the-slot principles, and we trust that when the Council take into consideration Mr. Hind's gay and gala-like proposals this additional detail may not be overlooked.

HERE AND THERE.

A FRIENDLY critic, speaking half in jest and half in earnest, has enunciated the half-truth that it is only since the war broke out that we have discovered the frightfulness of German architecture. It will appear in the sequel that he owes us rather more than half an apology; and I would remind him that while half a loaf may be better than no bread, half a truth has not the same economical value; but I do not insist that a half-truth is necessarily half a lie. I shall therefore evade Tennyson's fine scorn of "a lie that is only half a lie"; the poet preferring to the half-truth—if I may trust a rather hazy recollection of his outburst—the untruth, the whole untruth, and nothing but the untruth—the unsophisticated Thumper, of which some fine-grown specimens could be freely culled from the German Garden of Lies.

* * * *

But the frightfulness of German architecture is no new discovery. Our critic's half-truth may be conceded that character upon two grounds—(1) that, prior to the war, it was simply a matter of good manners to refrain from anathematising the architectural misdeeds of a friendly Power—or, rather, taking into account Germany's persistent studied insolence towards us—of a half-friendly Power; and (2) it is only since Germany has made such shocking revelations of her inherent and inveterate hatred and contempt of art—of all that is genial and gracious and beautiful—that one has seen German architecture in its true light as a manifestation of brutal malevolence. Before, one saw only a half-truth in a half-light. Now one sees the whole truth in the full glare of Der Tag, and condemns it in no half-hearted spirit.

* * * *

As long ago as 1909. a writer in this journal (January 20, 1909, p. 47) called attention, in a leading article, to what had happened and was happening to German art: "Germany, one infers, is crowded with pictures and statues and buildings" (German movement is always quantitative rather than qualitative: as in the mass formation of indifferent troops) "that in subject, design, and treatment, show unmistakable traces of the imperial prerogative—or, as a French writer puts it, of the intrusion of jack-boots and sabre in the domain of art." A writer in the "Contemporary" of January, 1909, is quoted as saying, "To be strictly fair, the line of development which modern art in Germany has taken is calculated to fill the man of taste with amazement—nay, even with horror. The Germans, as a people, were never noted for their refinement of taste; but the orgies of inartistic licence revealed in the architecture, furniture designs, and sculpture of Germany" called for the interference which the Kaiser at that date (to do him justice) lost no opportunity of exercising. "Intelligent Germans," the writer continued, "who deplore the sharp antithesis between the Kaiser and the majority of German artists, admit that the licence which is now running riot and playing havoc with German art must be checked, and they welcome the Kaiser's effort to enforce a healthy tone based on respect for convention."

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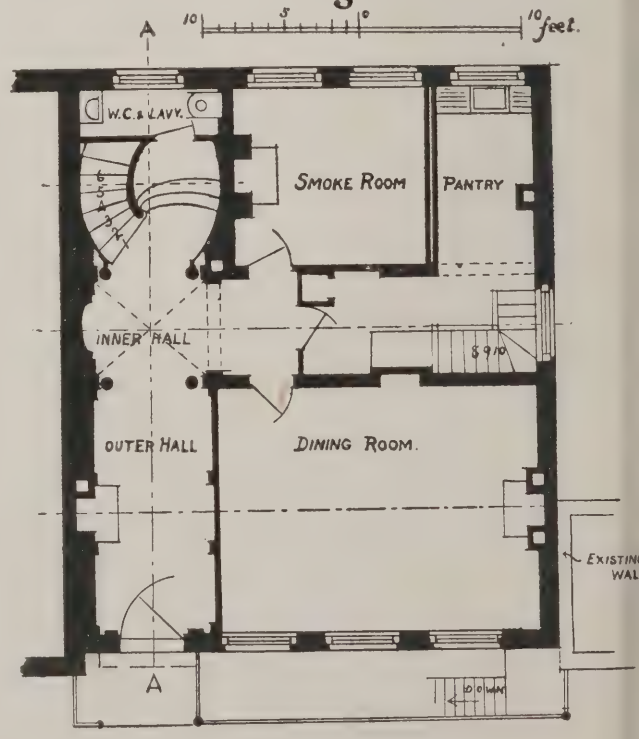
Sculpture, we are told, is the Kaiser's peculiar hobby, and he has been known to remark that if he had not been an Emperor he would have been a sculptor. "Perhaps," our leader-writer observed, "it is not very wise to allow either occupation to interfere with the other. The almost innumerable groups—battle-pieces, hunting scenes, and royal or imperial statues, in white marble or yellow bronze, put up under his direction. show that he either knows or cares nothing for Rodin or Meunier, but prefers to be a law unto himself." Pray recall that this was written more than seven years ago: and then say whether or not our attitude on German art has radically changed since the war. Remember, also the Hindenburg statue of wood, designed to have nails driven into it at a charge of so much a nail, and ask yourself, I beg, whether a people capable of such a boobyish performance can have the slightest respect for art. Why, they cannot even fulfil the conditions laid down by Mark Twain for the good governance of the gentle art of lying. They cannot "lie gracefully, consistently, artistically." Their lies are as lumpishly clumsy as their architecture—as false in form as in substance.

* * * *

Their extravagant use of statuary astonished Lewis Carroll (the Rev. Charles Lutwidge Dodgson) when, in 1867, he spent a holiday in Germany. "The amount of art lavished on the whole region of Potsdam," he writes in his diary, "is marvellous; some of the tops of the palaces were like forests of statues, and they were all over the gardens, set on pedestals. In fact, the two principles of Berlin architecture appear to me to be these: on the housetops, wherever there is a convenient place, put up the figure of a man—he is best placed standing on one leg; wherever there is room on the ground, put either a circular group of busts on pedestals, in consultation, all looking inwards—or else the colossal figure of a man killing, about to kill, or having killed (the present tense is preferred) a beast the more wounds the beast has, the better, in fact, a dragon is the correct thing; but if that is beyond the artist, he may content himself with a lion or a pig. The beast-killing principle has been carried out everywhere with a relentless monotony, which makes some parts of Berlin look like a fossil slaughter-house." That, pray you remember, was written nearly half a century ago—not only forty-seven years before *the* War, but three years before the Franco-German War. No; it has been made painfully evident that the Germans have in them only just enough art to prompt them to pilferings from more favoured races: and they do their stealing without deftness or discretion.

NEMO.

No 8 Buckingham St.



· Ground Floor Plan ·

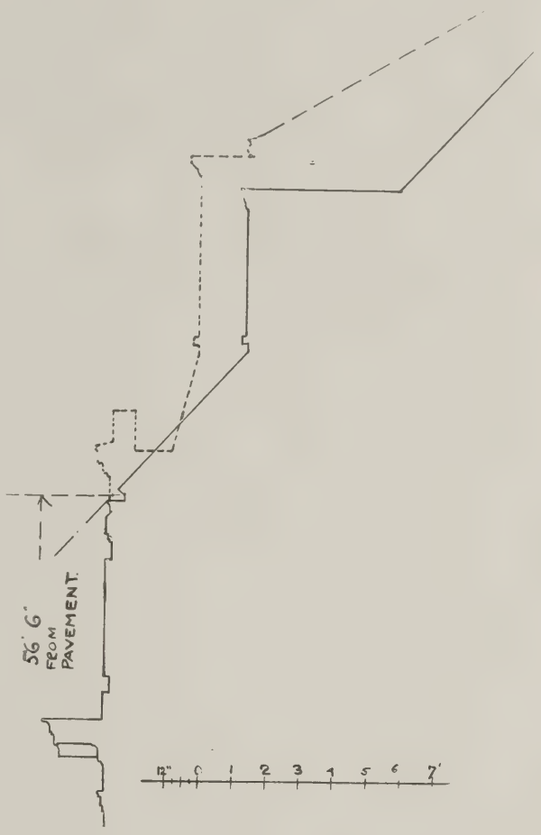
RIGHTS OF LIGHT AND AIR.

IN my notes on "Land Transfer," which you published in your issue of May 31, I touched as well on the difficulties which architects experience in regard to light and air, and contended that the law as at present constitutes one of the many bars to progress in the building trade. A suggestion that heights of buildings should be regulated by the Building Act, and rights of light automatically disappear, drew an interesting letter from Mr. Usher, published on June 7. In this Mr. Usher says: "It sounds something like high treason to suggest that a mere Building Act be used to deprive a man of his rights at common law." This sentence is illuminating, because it crystallises the situation: Is the individual's right at common law always to stand in the way of and be held contrary to the public interest?

Take the case of railway development in the nineteenth century, which represents the last attempt on a large scale to supply the public needs. The whole history of the movement is one of rapacious greed on the part of the individual, blocking and mulcting an improvement in the public interest. The result is that in the Report of the Board of Trade Railway Conference (1908) it was stated that the paid-up capital of the railways of the United Kingdom amounts to £56,000 per mile of line, much of the outlay having been incurred in obtaining statutory powers and in the acquisition of the land. Think of this as a first charge on all subsequent industry and effort. And what of the problems with which we are now confronted? The holding and transfer of land, housing both urban and rural, the orderly planning of our towns, the provision of factories and offices with which to build up the trade of the country after the war. An immense task. Are we in a better way of doing it than the railway promoters of the nineteenth century? Will the individual's right at common law be our main preoccupation? Surely the times we live in must teach us that quality of service and sacrifice will lead to a greater community of spirit—a determination that things shall be improved. Taking light and air, then, as one of the many difficulties ahead, the law as at present entitles a man to a sufficiency of light for the purposes of his business. In theory this sounds admirable, but in practice the question crops up as to what different individuals may consider a sufficiency. So the architect takes his professional life in his hands and advises his client that *if* his neighbours are obliging he *may* be allowed to go up *about* so many feet. There is no definition, no guaranteeing a certain definite return. The client loses his sense of security, and feels—well, why build at all if it is such a difficult operation? It further tends to lack of uniformity and lowers site values.

If the rights of light could disappear it would automatically increase the value of land in London to an appreciable extent and do very little, if any, damage to anybody. The community would then be only enjoying the same rights as the Crown. The only person who can acquire a right of light against the Crown is another Crown tenant holding under an old lease: under new leases such acquisition is barred.

An actual case is better than any amount of theory, and to this end permission has been obtained from a building owner to publish costs of a recent light and air action. The work consisted of pulling down an old eighteenth-century public-house and putting up a block of residential flats, the cost of which was £9,658. It was originally intended to go up 59 ft. to the top of the blocking course, as shown by the dotted line in the diagram, but the opposite neighbour would not allow this, and an action was entered against the building owner. From start to finish this lasted many months, and resulted in a decision that the building owner be allowed to build as the firm line. The eyebrows only were cut off the building, because the main ridge stopped in the same place. The building



owner paid the agreed costs of the other side, but was not cast in any other damages.

These amounted to	£600	0	0
The building owner's costs were	928	3	2
	£1,528	3	2

So that it cost over 15 per cent. on the contract price of the building to decide the case.

Included in the £928 3s. 2d. were fees to nine independent expert witnesses, including architects, surveyors, property owners, and builders, who received fees varying from £5 5s. to £63, and in total equalled	£281	10	7
Three learned counsel received	336	4	0
The lawyer	220	0	0
Model, photographs, etc.	90	8	7
	£928	3	2

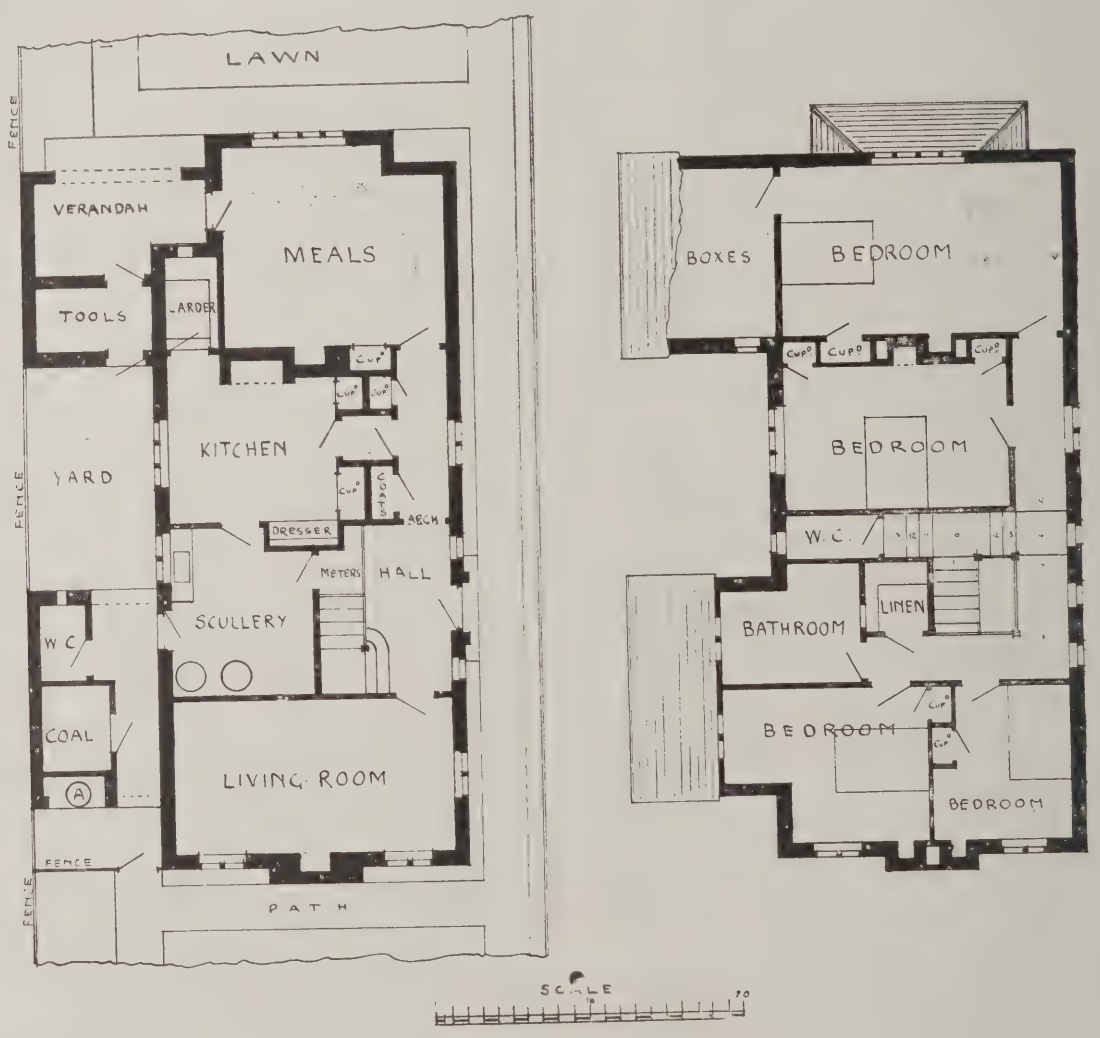
In publishing these figures it must not be assumed for one moment that any reflection is made on the conduct or charges of the parties concerned. The attack is on the system. So long as the law remains as it is, a man who may be in the position of a trustee, for instance, must defend what he considers to be his rights, and though it is the fashion at the moment to belabour the lawyers they, after all, only advise within the limits of the law. The system, though, which regards with equanimity such a waste of labour must be radically unsound. C. H. B. QUENNELL.

SMALL HOUSES OF TO-MORROW.

[SPECIALLY CONTRIBUTED BY E. L. ROBERTS.]

AFTER the War there will be many changes in our mode of living, but in nothing, perhaps, will there be a greater change than in the lives of those who live in houses rented at from thirty to forty-five pounds a year. Servants will be scarce. The girl who has been earning more by a week's shell-making than formerly she obtained for a month's drudgery will not rush back to domestic service, and the inevitable result will be that many mistresses will be compelled to do their own housework, with such occasional help as they can get. This state of affairs will lead to a demand for small houses much more conveniently planned than is the case at present. Architects and builders must be prepared to satisfy this demand. The badly designed shoddily finished house of former days will no longer meet the requirements of women who do their own housework, and who, consequently, will quickly discover the inconveniences of the places where such work is done. For it cannot be gainsaid that the small house of to-day is, as a rule, open to much legitimate criticism. In the first place, it is frequently built in rows. The ideal house must be detached. The semi-ideal may be semi-detached. The terrace house is simply a grim reality; it is stuffy and unhealthy owing to the lack of proper facilities for air circulation; the staircases, landings, and corridors are almost invariably dark and unventilated; the rooms are small, and the design generally beneath contempt. All these drawbacks will have to be remedied to meet the new conditions of life.

Let us try to realise a few of the features we shall look for in this new type of house. To begin with, the new house of moderate rental will have a wider frontage—at least thirty feet. Whenever possible it will be detached; it may be semi-detached, but no more rows of houses will be built. The design must provide one large living-room, and a smaller room for meals. It will no doubt be pointed out that if houses are to cover a greater superficial area the cost will be proportionately increased, and, consequently, it will be impossible to let them for low rents. On the face of it this appears to be a plausible objection, but its plausibility is only on the surface. The average small house of the kind under consideration has usually small *high* rooms. The newer type of house will have larger rooms, but the height will be considerably reduced. As men and women are not gifted with the ability of flies to walk on ceilings, it is obvious that additional floor space is more useful to the average householder. The cubic contents of the two rooms may be identical, but the comfort and convenience of the larger room will be infinitely greater.



SUGGESTED PLANS FOR DETACHED HOUSE.

Children, especially young children, will be considered more, and have greater care bestowed on them after the War. One of the essentials of health in a child is plenty of fresh air. In the earliest years of



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXXVII.—No. 8, BUCKINGHAM STREET, LONDON, S.W.: DETAIL OF LOWER STOREYS.

PROFESSOR C. H. REILLY, M.A., F.R.I.B.A., ARCHITECT.

The Builder, Wednesday, August 2, 1916.



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXXVIII.—No. 8, BUCKINGHAM STREET, LONDON, S.W.: THE HALL.

PROFESSOR C. H. REILLY, M.A., F.R.I.B.A., ARCHITECT.



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XXXIX.—No. 8, BUCKINGHAM STREET, LONDON, S.W. : VIEW IN HALL.

PROFESSOR C. H. REILLY. M.A., F.R.I.B.A., ARCHITECT.



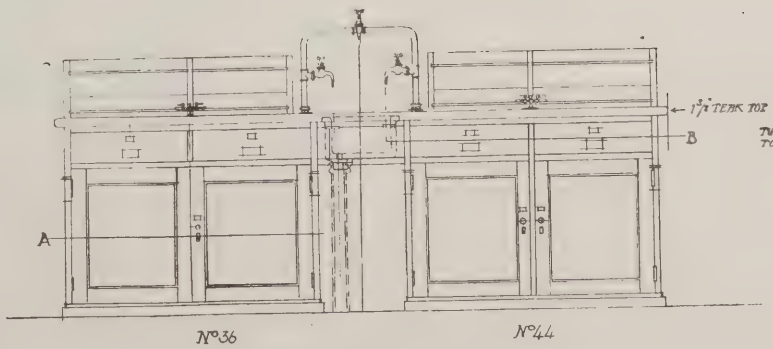
Photo: Stewart Bale, Liverpool.

MONUMENTS. XXIV.—MONUMENT TO ENGINE ROOM HEROES, PIERHEAD, LIVERPOOL.

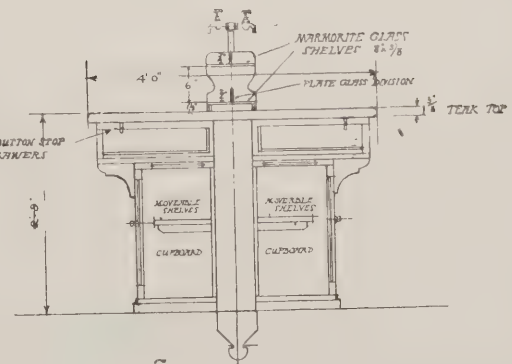
SIR W. GOSCOMBE JOHN, R.A., SCULPTOR.

UNIVERSITY OF ILLINOIS

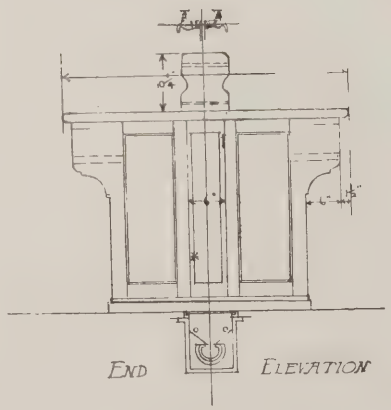
Supplement to "The Architects and Builders Journal," Wednesday, August 2, 1911.



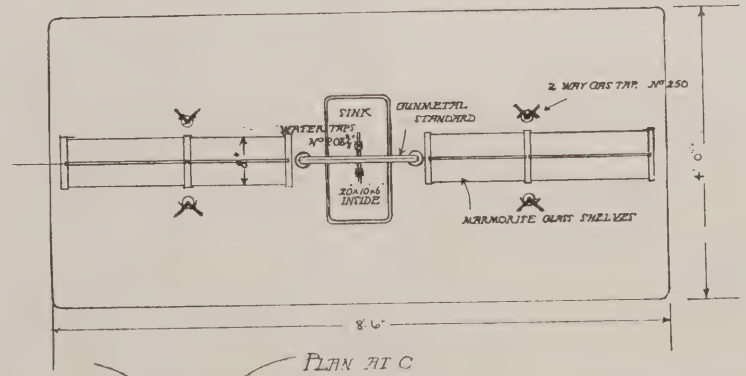
ELEVATION



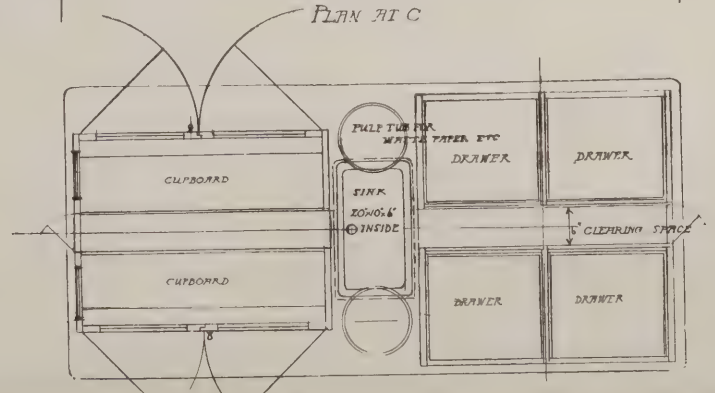
SECTION



CHEMICAL BENCHES Nos 36 & 44

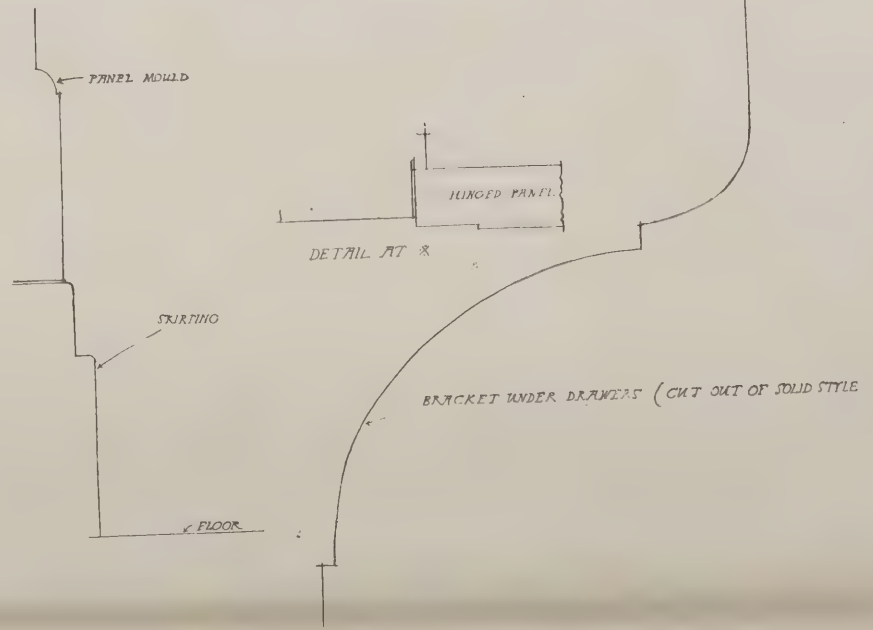


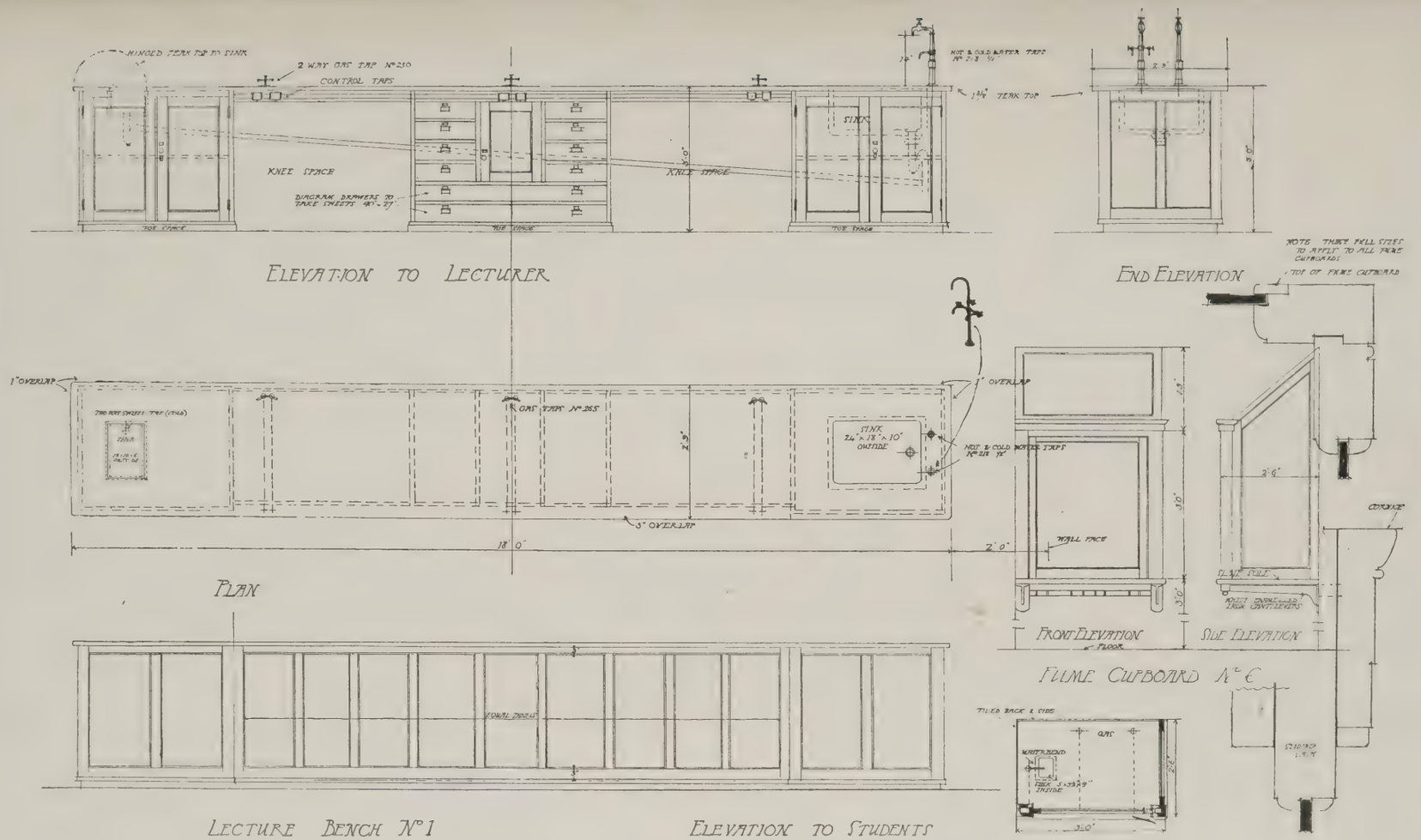
PLAN AT C



SECTIONAL PLAN AT A

SECTIONAL PLAN AT B





Details of Lecturer's Bench and Fume Cupboard.

SCIENCE AND TECHNICAL BUILDINGS. VIII.—CHEMISTRY LABORATORY, KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, LONDON, W.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

life it should spend as much time as possible in the open air. The new house, therefore, will always have a veranda, where the children can play and sleep in the fresh air during wet weather. This will not be looked upon as a luxury, but as an essential.

It is when we reach the kitchen, however, that the greatest opportunities for improvement occur. The domestic quarters of the average small house leave the impression of having been designed by bachelors whose knowledge of the subject was elementary in the extreme. The kitchen will be as near the dining-room as possible, but cut off from it so that the smells of cooking will not be too apparent. The old, wasteful, inefficient range must go to make room either for a gas cooker or for some combination stove like the "Interoven." The so-called hot-water system badly needs overhauling. In the new house it will no longer depend on a roaring fire and clean flues, but will be controlled by an automatic gas heater. In the new kitchen there will be a fixed dresser and plenty of cupboards. The scullery, an apartment omitted from many small houses, need not be large, but, in addition to harbouring the sink, hot-water apparatus, and gas copper, it should be large enough to hold a mangle. The back door will open on to a covered space containing accommodation for coals, ash bins, and w.c. The larder, two or three steps below the general floor level, will be conveniently near the kitchen. There will also be a small shed where garden tools, prams, and cycles may be stored, and odds and ends hidden away.

The front door will probably be at the side if we are to get our large living room. It will open into a small staircase hall containing at least one cupboard for coats. The veranda will be reached through the dining-room, and convenient for open-air meals.

The stairs suggest another innovation—they must be easy and well lighted, two qualities conspicuously absent from the staircases of most existing small houses. The landing or corridor should also be adequately lit and ventilated. Each bedroom would, of course, have a fireplace, and the bathroom, even if it could not be lined with tiles, could at least be built of while glazed bricks at very small extra expense. A large properly heated cupboard for airing linen is also an essential, and it should not be in the bathroom if it can be arranged elsewhere. Lastly, there must be a good boxroom in the new house.

As to fittings, common-sense is the best guide when available. Window bottoms should be of tiles, not wood. Metal should be avoided as far as possible, especially metals like brass requiring continual polishing and cleaning. Grates should be of the modern barless type, with tile or brick surrounds and hearths.

From the details given it will be seen that many of the objections to the small house as at present provided by well-meaning (if misguided) builders would be overcome in the suggested house of to-morrow. The necessity of carrying all food and fuel from a dark, often damp, and sometimes dirty, cellar has been obviated. Ample cupboards (dear to the housewife's heart) have been provided. It has become possible to have hot water at any time by simply lighting a gas jet. Dingy staircases and landings have become merely unpleasant memories. In short, the convenience of the people who will live in the house has been studied, with the result that the house has become something more than a place to sleep in; it now possesses the possibility of becoming a home. The occupier will take a pride in keeping it in good order for his own (and incidentally for the landlord's) benefit. The children will have a better chance of growing into strong, healthy men and women.

In conclusion, the cost of such a house under normal conditions should be very little more than that of the older type; and most prospective householders would probably be glad to pay the slightly higher rent for the infinitely increased convenience and comfort.

THE PLATES.

No. 8, Buckingham Street, Westminster.

ALTHOUGH the façade of a town house must necessarily show respect for its neighbours, and therefore to some extent resemble them, it may nevertheless show individual character; and to obtain this result without, on the one hand, yielding tame obedience to the prevailing features of existing houses, and, on the other hand, without undue assertion of independence is a problem of considerable delicacy. In this instance it has been very successfully solved. There is a neighbourly unity as well as an individual distinction in the frontage of No. 8, Buckingham Street, but the photograph, by omitting the upper storey, deprives the composition of its true effect. A third row of four windows, and a third stringcourse, add considerably to the interest and dignity of the elevation, and give the balconies a better value. It is held that at least three objects are necessary to composition, and this canon seems to apply vertically as well as horizontally. In the hall, of which two views are shown in the plates, the ornamental plasterwork was executed by Messrs. George Jackson and Sons, of 49, Rathbone Place, W., to whom the architect (Professor C. H. Reilly, M.A., F.R.I.B.A.) is "much indebted," so he informs us, "for the use of their standard Georgian mouldings and enrichments," of the grace and charm of which we had occasion to speak when showing examples of them in plates published with our issues of December 8, 15, and 22, 1915, and of January 12 of the present year. With such a wealth of standard enrichments available—and all the best forms seem to have been made centuries ago—it seems futile for an architect to attempt innovation in such details. His taste and judgment are sufficiently exercised in selection and adaptation. In the dining-room and drawing-room, the panelling and the fireplaces are old. They were taken from a house pulled down to make room for the new premises of the Port of London Authority, and have been refitted with great skill by Mr. Robert Langhorne. The general contractor was Mr. George Neal, of Willesden Lane, Kilburn, N.W.

Monument to Engine-room Heroes, Liverpool.

In this monument strength and vigour are not lacking, and there is a certain degree of robust grace in its design and general proportions, as well as in the modelling and disposition of the figures. Its merit is that it would certainly suggest the engine-room, even were the flames omitted, and even if the heroes were of less herculean physique; and on the whole it is a strong masculine piece of realism, appropriate alike to its subject and to its environment.

Chemistry Laboratories, King's College for Women.

See observations in last week's issue, page 42. In this college, the ladies have set a splendid example of thoroughness in the provision of scientific equipment, and that they are taking up this subject with so much energy and ability is the best of auguries for the nation's progress in science. Upon their realisation of the supreme importance of the subject its pursuit in the schools very largely depends; and, in doing what we can to help the movement by illustrating its latest developments in so far as they concern the architect, we have derived particular pleasure from this example of what women can do and are doing. We have in hand an account of the excellent arrangements for scientific cooking which form an important feature of the equipment of the college.

TREHARRIS PITHEAD BATHS.

Pithead baths are so much of a novelty in this country, that when, some five or six years ago, it was resolved to establish such baths at the collieries owned by the Ocean Coal Company, Ltd., it was found necessary to go to the Continent for examples. Three years ago Mr. David Davies, M.P., chairman of the company, organised at his own expense a party of men selected from the various collieries owned by this company to make a personal inspection of pit-head baths in use abroad. Mr. John Samuel, assistant principal at the School of Mines, Treforest, took charge of the party, which was accompanied by Mr. T. E. Richards, A.R.I.B.A.

In France the deputation visited the Lens Collieries, and at No. 5 Pit inspected the oldest form of pit-head baths used in France—what is now known as the "first system." These baths consist of a series of sprays each fitted into a separate cabinet built of zinc sheets and arranged round the sides of the building, the central portion of the hall being used as a combined dressing and drying room, in which the clothes are hung up near the roof by means of ropes and pulleys. Radiators are fitted into the walls—usually above the baths—and these circulate a current of hot air towards the roof, which dries the clothes. At his colliery 300 miners were employed, 80 per cent. of whom used the baths. There were 40 sprays, in which the water was automatically kept at a temperature of 38 to 39 degrees Cent. The initial cost of the baths was £1,800, and the maintenance charge (including 10 gallons of water per man) was between 6s. and 7s. per day.

At the St. Edouard No. 12 pit they inspected the "second system" of baths, which only differs from the former in having the cabinets built of glazed bricks, fitted with revolving doors, and a rack for the workmen's clothes. Here fifty-four cubicles were erected, the whole structure costing £2,400, and capable of dealing with 350 men per hour, at a maintenance charge of about 8s. per day.

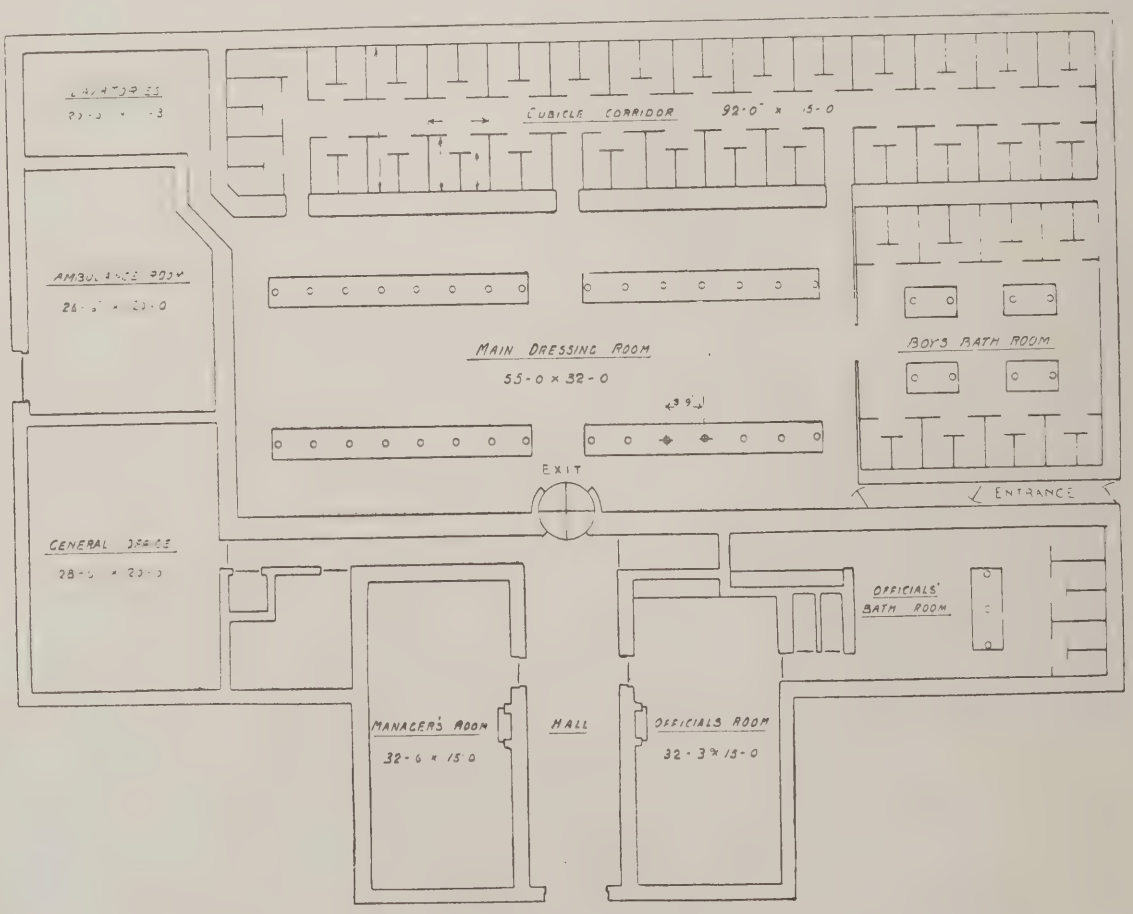


TREHARRIS PITHEAD BATHS: GENERAL VIEW.

T. E. RICHARDS, A.R.I.B.A., ARCHITECT.

At No. 15 colliery the "third system" was inspected. In this system the cabinets are arranged in two rows, one above the other, with a balcony passing round at the level of the second tier, with steps at intervals between the balcony and the floor. Lockers are arranged for the workmen's clothes. The chief objections to this system are (1) the stuffiness due to the crowding of so many baths into a small area, and (2) having to keep the ordinary and working clothes alternately in the same lockers.

At No. 4 Colliery of the Lievin Mining Company the party was shown the latest form of French pit-head baths—the "fourth system." The baths in this system are separate cabinets erected in separate wings instead of around the walls of the drying and dressing hall, but each leads



TREHARRIS PITHEAD BATHS: PLAN.

into the central dressing room. The baths at this colliery, containing seventy separate cabinets, cost £6,000, and were used by 60 per cent. of the 1,800 men employed, the maintenance charge being 7s. to 8s. per day. In most cases in the "fourth system" hooks and chains are used to suspend and dry the clothes, but at Courrières No. 6 collieries 640 lockers were used.

In Belgium the deputation found that the baths were, generally speaking, similar to those of the third and fourth systems in France. The use of the baths is optional in Belgium, as in France, yet practically all the men use them in the former country.

In some cases, as at the Associated Grand Sac Colliery, separate baths are built for girls working on the pit-head, and these are fitted with electric fans for drying their hair.

In Germany the colliery proprietors are compelled to erect colliery baths, and the workmen are compelled to use them. Unlike the baths at French and Belgian collieries, the German pit-head baths are on the open principle, although the baths are usually separated from the dressing room and a separate place is provided for youths up to eighteen years of age. The baths are free, the workman supplying his own soap and towel. The miners are compelled to provide a clean set of pit clothing once a week. The baths are usually built in the basement of the main building containing the administrative offices, and are connected to the shafts by means of a covered way.

The party on their return expressed their unanimous approval of the excellent results accruing from the use of pit-head baths, more particularly those arranged on the fourth French system, with single cubicles, in a separate building directly connected with the central dressing and drying room fitted with suspenders for the miners' clothes. It will be seen from the illustrations (for which, as well as for the substance of this account, we are indebted to the courtesy of the "Colliery Guardian") that these ideas have been incorporated in the Treharris baths, which are situated in close proximity to the pits, thus avoiding any risk of workmen catching chills in winter when withdrawn from the warm atmosphere of the mine.

The building (which also serves as administration offices) is a very substantial structure, the main walls being constructed of Pennant rock. It consists of a large central dressing-room 55 ft. by 32 ft. fitted with 800 chains for suspending the miners' clothes, near the roof and over the radiators, which are fixed 14 ft. above floor level. These radiators heat the air circulating through the hall with an exit in the roofs, for the purpose of drying either the working or wearing clothes when suspended. The miners enter the dressing-room through the corridor shown on the plan on p. 54, each person having his specified position in the hall with his own chain and padlock with number attached.

Entry to the adult baths is obtained through passages in the centre, and at each end of the dressing-room. The fifty-four cubicles are erected in a separate corridor 92 ft. long by 15 ft. wide. The cubicles are constructed of white glazed bricks in the form of T-shaped walls. Between the inner and outer T's pegs are fixed to the wall for holding the clothes, while the space on either side of the inner T forms the bath cubicle, which is quite private. Each spray is connected to a hot and cold water supply, the water used being the same as that used for household purposes, and obtained from the Brecon Beacons. The hot water supply is obtained by passing steam at 50 lb. pressure through a calorifier, which is capable of heating 6,000 gallons per hour from 60 degrees Fahr. to 250 degrees Fahr. By means of an automatic arrangement the temperature of the water can be fixed to prevent danger from scalding.

Adjoining the dressing-room there is a separate bath-room containing sixteen cubicles with sprays for boys, making a total of seventy baths for workmen. Taking the average time at ten minutes per man, this would give accommodation for 420 men per hour, and as it takes 1½ hours to withdraw the men from the two pits, 630 men could pass through the baths during this period without waiting. A separate room containing five baths is set aside for the officials, the only difference in the arrangement being that they have lockers for their clothes instead of the suspended system used in the main baths.

On the upper floor, which is reached by means of an iron ladder, a special drying room has been built in the superintendent's department for the purpose of drying wet clothes. It consists of a small room containing four racks surrounded by steam radiators. Arrangements have also been provided for the inclusion of a special washing machine in this department, should the workers show any desire to take advantage of the arrangements already provided. An ambulance room fitted with all the latest first aid appliances has also been provided. The total cost of building was £8,000. Of this sum approximately £6,500 has been spent on the baths, and this has been handed over by the Misses Davies of Llandinam as a free gift to the miners of Treharris.



TREHARRIS PITHEAD BATHS: CUBICLES. T. E. RICHARDS, A.R.I.B.A., ARCHITECT.

ARCHITECTURAL ASSOCIATION: PRESIDENT'S ADDRESS.

The President (Mr. A. G. R. Mackenzie), in distributing the prizes at the A.A. School of Architects on July 21 (a list of the awards was given on page xvi. of our issue for July 26), said that his first impression on seeing the exhibition of work was that it was an excellent one, and after going thoroughly through the drawings that impression was more than confirmed. He thought he could justly say, without taking into consideration the difficult times in which we live, that the drawings exhibited were well up to the high standard which we all expect to find in A.A. students' work. He knew the students had worked under very adverse conditions, disturbed by the upheaval caused by the change of premises, and thought he ought to thank them for the loyal way in which they had supported the Council in this difficult operation. He did this heartily, because without their assistance, so cheerfully given, the problems the A.A. had to contend with would have been far more difficult.

It was not surprising to find that there were no students in the First Year Course. All those who had intended joining the school had gone into the Army instead, where we would all like to be if we were able. Three students who were in the First Year at the beginning of the session have been moved up into the Second Year, and this promotion was fully justified by their work.

The School of Design, although only in the first year of its life, could be voted a very great success. As all the students knew, the subjects are set there first of all as a twelve hours' *esquisse*, which must not be departed from in principle. The idea of this is to instil quick working and a rapid grasp of essentials of the subject. The schemes are afterwards developed, with the assistance of the reference library, the constant use of which is very gratifying and fully justifies the kindness of donors such as the late Mr. Florence, who left the whole of his valuable library to the Association. This school of design was quite in its early stages, but its prospects were extremely favourable, and he believed that the work which it will accomplish will be better than anything that has yet been done by students in England.

He was sure the students would all be the first to admit the great debt they owed to their brilliant headmaster, Mr. Atkinson, for all he had done in the school and for his untiring energy and enthusiasm, and Mr. Atkinson in turn would be the first to acknowledge the value of the

able assistance given him by Mr. Bucknell and Mr. Lowry.

He hoped it would not be long before their labours would have a much wider scope in new premises. He was sorry he was unable at the moment to tell them that a future home for the Association had been secured, but he did not think it would be many months before he would be able to make a more definite announcement with regard to this.

They must have a home worthy of the Association and its schools, and their idea was that it should be a centre of young architectural life and kindred arts for not only London, but the whole Empire. They wanted it to be a great force in anything appertaining to their art, and he was sure that this would be accomplished.

Many activities would be possible in a new building. The school could be developed on even more influential lines than in the past. They hoped to institute a Fourth Year Course, which would have for its main idea the study of architecture in conjunction with town planning. They would like to have a permanent life class, with models practically always sitting, and to institute many other schemes; and apart from this they must have a building for the purely social side of the profession, which would have that "club" atmosphere which would attract their professional brethren and those engaged in the allied arts to look upon it as a rendezvous of all those who were interested in architecture and its allied arts.

Coming to the business which brought them there that afternoon, the announcement of the awards for the session and distribution of prizes, he said it had been a work of great pleasure examining the drawings, and in weighing and balancing the value of the designs produced and noting the advance made. Of course, everyone could not have prizes, but it did not follow that everyone had not done good work.

Mr. Mackenzie then awarded the prizes, and in conclusion said he wished again to congratulate the masters and students on the excellent results of their labours. He thought the Association had good reason to be proud, in the first place, of the members and students who are serving their country; and, in the second, of those who have "carried on" so well at home. To those leaving the school he would say, always remember the value of hard work. No good architecture is produced easily: and having started on an architectural career with the excellent foundation which so few of their elder brethren had the advantage of, they should remember that this was only the beginning, and that there is always more to be learnt by criticism and example. Theirs was a progressive art and they were all students until they ceased to practise.

Mr. Robert Atkinson, headmaster, proposed a vote of thanks to Mr. Mackenzie, which was enthusiastically carried.

Walker-on-Tyne Housing Scheme.

At a meeting of the Newcastle City Council last Thursday, the Housing Committee presented a further report regarding expenditure upon the Walker Housing scheme and the proposed agreement with the architect, Mr. Edward Cratney. Three schemes of development have been submitted to the Council, based upon plans submitted by Mr. Cratney, and in each instance the cost of the erection of the buildings was in accordance with the builder's tenders.

CHARING CROSS BRIDGE.

Following upon the rejection by the House of Commons of the Bill to strengthen the Charing Cross Railway bridge, the South-Eastern Railway Company have addressed a letter to the London County Council asking them to come to a speedy conclusion on the next step to be taken.

Some years ago the company obtained Parliamentary sanction to construct an extra bridge on the same lines as that at St. Paul's, by the side of the existing bridge, and they have now applied to the Board of Trade for authority to keep their powers alive. It is unthinkable that such a bridge should ever be built, and the railway companies will no doubt co-operate in any practical scheme that may be evolved for the removal of the station to the south side.

Mr. Edgar Horne, M.P., makes the excellent suggestion that they should at once proceed to schedule an area of land suitable for the erection of such a station, with a view to an application to Parliament for compulsory powers.

Obviously, says a writer in the "Daily Chronicle," the first step in the making of an Imperial way and road bridge is the building of a new terminus to take the place of Charing Cross Station. This should be at least 50 per cent. larger than the present one, for it will have to accommodate a far larger traffic. In this connection the probability of the Channel Tunnel being completed within the next decade must not be overlooked.

FEMALE BUILDERS IN GERMANY.

An article in the Socialist "Leipziger Volkszeitung" gives particulars of the readiness with which German employers have availed themselves of the temporary suspension of the law forbidding the employment of female labour in the building industries.

In East Prussia much female labour is now employed in rebuilding what was destroyed in the Russian invasion. In Silesia women actually dominate the building industry. Strong complaints come from Upper Silesia that not only young women, but even girls, who are scarcely more than children, are set to do the heaviest kinds of work. In Königshütte young girls carry bricks upon their backs to the upper storeys. In Bismarckhütte women work at dizzy heights in the construction of the new administrative buildings. In Berlin and its environs women are employed in building the underground railway, in drainage works, and on State buildings. In other cases women have been employed in the transport of material and in working the military railways, employers salving their consciences by the plea that it is, after all, a charity to give employment to soldiers' wives. In Saxony, where female labour in the building industry has been hitherto unknown, large numbers are now employed, and are often compelled to share their lodgings with the male employees. In the Westphalian industrial districts, as well as in the construction of the Mittelland Kanal in Hanover, numerous women, mostly foreigners, are working under very questionable housing conditions. The employers prefer female labour, because women are paid 50 per cent. less than the scheduled wages for men. The same conditions obtain in Bavaria.

LEGAL.

Waterworks Construction: Contractor and Award.

Nott v. Cardiff Corporation.

July 26. King's Bench Division. Before the Lord Chief Justice and Justices Avory and Low.

Mr. Bruce Thomas applied on behalf of the Corporation of Cardiff for an extension of time for serving notice of motion to set aside an award made in an arbitration between Nott, a contractor, and the Corporation in connection with the construction of waterworks. The notice should be served before the end of term. The award was made on June 6. It was a very heavy matter, and he did not think from the instructions he had received there had been any undue delay on the part of the Corporation in getting the case before counsel for their advice before it was decided to launch this motion. There had been considerable difficulties in the way, the first being that the arbitrator, although the arbitration was completed in October last year, did not make his award until June of this year. That necessitated a great amount of work again on the part of the Corporation. In an arbitration of this kind, where there were claims amounting to nearly £40,000, it meant a vast amount of work on the part of the legal advisers to the Corporation to again present the case to counsel. In addition to that, leading counsel for the Corporation was unable to take the papers in the case, he having retired. Mr. J. D. Fitzgerald said they had to be laid before Mr. Holman Gregory, K.C., and there was a lot of matter to deal with, the arbitration having taken about eighteen days. It was therefore asked that an extension of time for serving the notice should be granted. The matter was further complicated by the death of Mr. Nott.

Mr. Stamper, on the other side, said although Mr. Nott had died he did not think that should have caused so much delay. Mr. Nott died on July 4.

After further discussion their lordships granted an extension of a further ten days to enable the Corporation to file the necessary further documents.

BUILDERS' BENEVOLENT INSTITUTION: ANNUAL GENERAL MEETING.

The sixty-ninth annual general meeting of the Builders' Benevolent Institution was held at Koh-i-Noor House, W.C., on July 24, 1916, Mr. F. Shingleton in the chair. After the minutes of the sixty-eighth annual general meeting were read and the audited accounts for the past year were submitted and adopted, the following annual report was presented:

In submitting its sixty-ninth annual report, the committee of management desires to express its deep regret at the continuance of the war, but, at the same time, to express its admiration for our presidents and others who are serving in His Majesty's Forces. The war has materially affected the funds of the Institution, and its income has consequently been considerably reduced. During the past year one man has been added to the Pensioners' List, which now includes twenty-six men and thirty-three women. Two men and two women have died in this period. The Institution is much indebted to those who responded so generously to the treasurer's appeal issued in November last. The Committee of Management tenders

iearty thanks for their kind assistance to he trustees and to the hon. auditors. Major G. R. Holland, R.A., has kindly consented to act again next year as president.

The following officers were elected: President, Major G. R. Holland, R.A.; treasurer, Mr. Frank May, J.P.; hon. auditors, Mr. John T. Bolding and Mr. Hubert S. Ward, F.C.A. The following members of the Committee of Management, who retired by "rota," were re-elected: Mr. A. H. Adamson, Mr. John T. Bolding, Mr. Ben Carter, Mr. H. S. Foster, Mr. F. G. Minter, Mr. Henry Northcroft, Mr. James F. Parker, Mr. A. Ritchie, J.P., Mr. J. W. Chessum, J.P., and Mr. Howell . Williams, J.P., L.C.C.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS: MEETING AT BRIGHTON.

There was a good attendance of delegates at the half-yearly general meeting of the members of the above Federation, held on Wednesday last at the Old Ship Hotel, Brighton, under the chairmanship of Mr. W. F. Wallis (president). At the commencement of the proceedings the Conference was welcomed by the Mayors of Brighton and Hove.

The Advancement of Trade.

Mr. Van Ophen, the secretary of the International Federation of Building and Public Works Contractors, wrote thanking the Federation for what it had done in assisting Belgian contractors.

Interim Report.

The officers and council submitted the half-yearly report, which stated that there had been a further increase in membership. The Joint Sub-Committee had approved the final revision of the form of sub-contract, and had ordered the proposals to be sent to the Confederated Sub-contractors for their consideration and observations, which were shortly expected. Considerable attention had been paid by the Special Committee to the question of pre-war contracts. Since its last report the committee had availed itself of a favourable opportunity for co-operating with other bodies, to send forward to the Government definite proposals for an amendment of the Defence of the Realm Act, designed not alone to afford much-needed relief to the building trade, but to be also general in their application.

The report was adopted.

Belgian Fund.

It was reported that up to the end of July the total amount received on account of the Belgian Fund was £2,688. A sum of £2,538 had been disbursed and the balance in hand was £149.

Mr. S. Easten appealed to the Associations who had not sent in subscriptions to do so, so as to enable the Federation to complete its work. He moved the following resolution passed by the Council: "That this Council is of opinion that there is an honourable obligation upon the Federation and local Associations to fulfil the resolution passed at the Leeds meeting as to paying up the arrears to the end of July, and recommends the general meeting to confirm this resolution and use its influence to secure that these arrears are got in, and that any further obligation be considered as a fresh undertaking and dealt with as such."

Mr. E. J. Brown seconded the motion and it was carried.

New Form of Contract.

It was reported that the council had considered a report of the Administrative Committee on certain proposals for an alternative form of contract which had been prepared by the North-Western Federation and had passed the following resolution: "That the proposals should be adopted as a draft to be sent by the Federation for consideration and report, and that reports be requested in time for the November meeting of the Administrative Committee, and the latter be given power to take the necessary steps to place the proposals before other bodies concerned if in its opinion the reports justify; and to report fully to the next Executive meeting."

Mr. Storrs, in moving the resolution, said the North-Western Federation believed the suggested form was a considerable improvement on the old R.I.B.A. form, and the Executive Committee considered the time had arrived when the views of the country should be obtained on it.

Mr. Blackburn seconded the motion.

Mr. Hope expressed the view that the draft should be adopted as the draft of the National Federation.

Mr. Smethurst pointed out that the Federation could not adopt the draft until the various Associations had had the opportunity of considering it.

Mr. Foster (Burnley) said the North-Western Federation had submitted the draft to the Associations within its area, and they had put it before a number of architects in the larger towns in their area. Some of these were prominent architects, high in the counsels of the Royal Institute of British Architects, and they received the form with favour.

Mr. Storrs pointed out that it was quite clear they must obtain the views of the constituent parts of the Federation before the Federation could come to a final judgment.

The resolution was passed.

Apprentices after the War.

Having considered a communication from the Sheffield Association, the Council recommended the following resolution: "That the officers be appointed a committee to meet the heads of the Operative Unions to discuss the position of apprentices, the serving of whose apprenticeship has been interrupted by the war with a view to arriving at a practical solution, and that the committee be empowered to add to its numbers."

Mr. A. J. Forsdike proposed the resolution, which was seconded by Mr. W. J. Renshaw.

It was explained that the position brought about by apprentices leaving to serve in the war would necessitate alterations in the rules agreed with Trade Unions if a solution was to be found for the difficulty when the men came back, because the young men would then be too old for apprentices and not trained enough to be skilled workmen.

Mr. Howard pointed out the advantage which would accrue to the trade if they could arrange with the Unions to allow men of an older age to commence apprenticeship.

The resolution was carried.

Prices of Material.

The following resolution, sent up by the East Glamorgan and Monmouthshire Valleys Association, was referred to the Administrative Committee: "That this meeting unanimously resolves that the Board of Trade be petitioned to seriously consider the inflated prices of all building materials, and hopes that His Majesty's Government will take steps to remedy this hardship.

The motion was unanimously adopted.

Metric System.

Mr. Rice (London) moved: "That this meeting considers that the present is an opportune time to revise our system of money, weights, and measures, so as to bring them into harmony with the metrical system prevailing among the rest of the Allied nations in order to facilitate trade relations between them and us after the war, and requests the Administrative Committee to make representations on behalf of the Federation to the Government accordingly, co-operating if practicable with other bodies which are moving in this direction."

Carried unanimously.

Restriction of Building.

A discussion, partly of a private nature, took place on the following resolution from the Council: "That this Executive Council approves the action of the officers in their discussion of this matter with the Minister of Munitions and gives them authority to take any case of material hardship caused by the stoppage of work in progress to the Minister with a view to settlement. That this Council, appreciating that the requirements of the State have necessitated the stoppage of certain contracts, and that the Minister of Munitions has appointed the President of the Royal Institute of British Architects in an advisory capacity, respectfully requests that as very important technical and financial points are involved, and as a matter of equity the President of the National Federation should be appointed in addition in a similar capacity. That a circular be issued to all associations notifying that any question of material hardship may be referred to the National Federation."

It was pointed out by Mr. Easten that only cases of national hardship should be reported.

On the question of whether the builder or the architect was the person to give notice of work in progress and to make application as to new work, Mr. Storrs advised that it was the duty of the builder.

The resolution was carried.

Education.

On the motion of Mr. Foster, seconded by Mr. Renshaw, it was agreed: "That the members of the National Federation of Building Trades Employers, in general meeting assembled, welcomes the Government's decision to appoint a committee to consider the reconstruction of national education, and respectfully urges that the committee should specially consider the need for day continuation schools, in which those children who have left the elementary schools and cannot attend secondary schools, shall continue their general education for eight or nine hours weekly up to the age of at least seventeen years, and that technical training should be associated with such general education whenever possible. Copies of the resolution to be sent to the Prime Minister, the President of the Board of Education, and to Lord Crewe, the Chairman of the Committee."

Secretaries' Conference.

On the motion of Mr. Moss, seconded by Mr. Easten, it was agreed to revive the Secretaries' Conference.

Discussions on Mr. Van Ophen's letter, on income-tax and payment of delegates' fares, and on the metric system, are unavoidably held over.

NEWS ITEMS.

Protest against Ministry of Munitions Regulations.

Representatives of the Federation of Builders, meeting at Cardiff, have protested against the regulations recently issued by the Ministry of Munitions, whereby licences must be obtained for the construction of all buildings exceeding a cost of £500.

Damp-proofing a Wine Cellar.

The two most essential features of a wine cellar are uniformity of temperature and dryness. Dampness rots the corks and affects the taste of the wine. Probably the reason is owing to cork being so absorptive and to the fact that bottles lie for years in the cellar to mature the wine. We hear that a leakage in the floor of the wine cellar at Berkeley Castle has been cured with a rendering of Pudloed cement.

German Gymnasium Sold.

The German Gymnasium, Pancras Road, King's Cross, was sold on July 25 by Messrs. Horsey, Sons, and Cassell, at Tokenhouse Yard, for £4,000, the purchaser being Mr. W. J. Cooper, builder and decorator, Barnsbury. There is an unexpired term of nearly forty-one years on the leasehold, and the ground rent is £42 10s. Bidding started at £2,000. The sale was by order of the liquidator.

Building Trade Wages in Birmingham.

The men engaged in the building trade in Birmingham and district have made a demand upon the masters for an advance in wages of 2d. per hour, to take the form of a war bonus. Bricklayers and carpenters at present receive 11½d. per hour, which includes a war bonus of a halfpenny, granted in October last. An application for an advance of 1d. per hour was recently made by the men, but this was not granted by the employers.

Town Hall for Morecambe.

Morecambe Town Council has decided to purchase the Poulton Hall estate for a new town hall and other municipal buildings. The site adjoins the Technical School, Central Schools, and Education Offices. The Corporation's idea is to create a civic centre, widening the streets and demolishing old property. The Mayor congratulated the Corporation on their courage, saying it was the finest step Morecambe had taken for years.

Embargo on Foreign Granite Relaxed.

There is to be some relaxation of the embargo on the importation of granite from Norway and Sweden. Mr. Harcourt, writing to Mr. G. B. Esslemont, M.P., on behalf of Mr. Runciman, President of the Board of Trade, states that he is prepared to agree to a licence being granted to enable one vessel to make one voyage with a cargo of granite from Scandinavia. The relaxation of the embargo even to the extent of allowing one ship-load of granite into Aberdeen will enable the industry to proceed on something like normal lines for some months.

Dublin's Ruined Buildings: Loan from the Treasury.

The Dublin Corporation discussed on July 25 the report of the deputation appointed by the Council to wait upon Mr. Asquith with reference to the question of compensation for loss of property during the recent rebellion. The report stated that the Premier was sympathetic, and promised to approach the Treasury with a view to granting the necessary assistance by way of a loan to be repaid by the citizens to the Treasury through the Corporation over a number of years. The report was adopted. Plans for rebuilding a number of houses in the ruined area were also approved.

Liverpool's Housing Scheme.

According to the report of the Liverpool Housing Committee, the only expenditure which is being incurred on capital account at present is in the erection of three blocks in Gore Street, Jordan Street, and Sparling Street. The committee, it is stated, have under their control 2,823 tenements, of which number 2,791 are used as dwellings, 13 as lock-up shops, and 19 as dwellings and shops.

CHURCH WORK.

Wargrave Church Rebuilt.

Wargrave Church, which was burned down by militant suffragists on Whit Monday, 1914, has been rebuilt at a cost of over £13,000, and was recently consecrated by the Bishop of Oxford.

Memorial Window at Eppleton.

The stained-glass window of five lights which was unveiled the other day at Eppleton Church by the Dean of Durham, in memory of some who had rendered faithful service to the parish church and of those soldiers belonging to the parish who have fallen in the war, was executed from the design of Mr. W. H. Bartlett.

New Sanctuary Gates at St. Jude's-on-the-Hill.

Princess Louise, Duchess of Argyll, was present last week at St. Jude's-on-the-Hill, Hampstead Garden Suburb, and unveiled the brass gates which have been erected at the entrance to the sanctuary in memory of the late Mrs. Cockcroft. The gates were designed by Mr. H. A. Welch, A.R.I.B.A.

War Memorials at Battersea.

Bishop Taylor Smith, Chaplain-General to the Forces, dedicated at St. George's Church, Battersea Park Road, memorials to Second-Lieutenant Kenneth Theodore Dunbar Wilcox, Queen's Royal West Surrey Regiment, who was killed in action near Ypres in November last. The memorials consist of a mosaic pavement at the west end of the church and a mural tablet in various marbles.

Hundon Church Rebuilt.

All Saints' Church, Hundon, which was burned down on February 15, 1914, and has been reopened, after restoration under the direction of Mr. Detmar Blow, architect to the Society for the Protection of Ancient Buildings, has been rebuilt on the same lines as the old fabric, great care being taken to preserve the details of pillars, windows, mouldings, arches, etc. All that remains of the ornamental cresting which formed so striking a feature on the clerestory walls has been skilfully pieced together and refixed on the south side. An unsightly mausoleum, erected about 1730 beside the porch, has been removed, so that the original outline of the church may be clearly seen; and the formerly enclosed marble monument to the memory of Arethusa Vernon is now exposed to view. The floor of the sanctuary consists of stone slabs and paving tiles; the rest of the church is laid with wood blocks. The pulpit is made of oak cut out of the charred beams which fell from the ceiling during the fire. The base of the font is constructed of old stone which was found embedded in the walls, and had belonged apparently to a church of still earlier date than the present (fourteenth century) one. The side altar is placed in the chantry chapel, formerly used as organ-chamber and vestry room. The organ now occupies a more open space in the east bay of the south aisle, and the seats for the choir are in close proximity. The chancel is restored to its proper use, for the accommodation of the officiating ministers at choir offices, and for the worshippers at celebrations of the Holy Communion. The total cost of restoring the church has been a little over £5,000.

New Church at Welbeck.

The Bishop of Southwell has consecrated a church at Woodhouse Hall, near Welbeck, which the Duke and Duchess of Portland have caused to be erected. The church is dedicated to St. Winifred, the Christian name of the Duchess of Portland. The plans for the new church were prepared by the Duke's clerk of works, Mr. D. McIntyre, and the work was begun in July, 1913, but owing to the war it has taken longer to complete than anticipated. The church is in Norman style, and consists of a nave, north aisle, chancel, apse, with vestries and organ chamber. It is built of local stone, chiefly from the Cresswell quarry, and the roofs are covered with Precelly slates. The pulpit, choir stalls, and Communion rails are of Japanese oak, the rest of the woodwork being of brown Sherwood oak grown on the Welbeck estate. Lighting is by electricity and heating by low-pressure radiators. The church will accommodate 150 worshippers.

Commemoration Window at Halifax.

The erection of the Church of St. Mark's, Siddal, a working-class suburb of Halifax, was completed a year ago, chiefly owing to the anonymous generosity of a London lady, to whom the local public have given the fitting title of "Lady Bountiful." She contributed two-thirds of the cost, or over £7,000, and has since made further handsome donations. An east window of stained glass has been placed in the church to commemorate this remarkable example of generosity, and last week it was dedicated at a special service conducted by the Archdeacon of Halifax (the Venerable W. Foxley Norris). The window represents the ascension of our Lord, and is the design of Mr. J. H. Dearle, artist to Morris and Co., of Merton Abbey, Surrey, and has cost £420.

New Episcopal Throne in Manchester Cathedral.

In the choir of Manchester Cathedral a new episcopal throne has been erected as a memorial to Bishop Moorhouse. The old throne erected at the foundation of the bishopric of Manchester in 1847 had become so dangerous that it was with difficulty removed without accident. The new throne is of dark oak and is almost the colour of the ancient stonework. It consists of a double canopied stall, crowned by a spire. The lower canopy forms the covering of the seat. The bosses in the roof over the bishop's head are carved representations of Manchester Cathedral, Melbourne Cathedral, and St. John's College, Cambridge, with all of which Bishop Moorhouse was connected. The throne has been designed by Sir Charles Nicholson, and the work has been executed by Messrs. Bowman, of Stamford, and the statue of the Good Shepherd has been carved by Mr. Walker.

AGAINST MUNICIPAL HOUSING.

A trenchant article on the housing question is contributed to the "Liverpool Courier" by Mr. M. Cheverton-Brown, C.C., of Hull, President of the National Federation of Property Owners and Ratepayers, who makes out a strong case against municipal housing and against harassing legislation.

It is well known, says Mr. Cheverton-Brown, that anything done by municipalities usually costs about double what it costs when done by private enterprise. The total cost to Liverpool of the various municipal demolition and housing schemes up to December, 1914, is given in the Housing Committee's report as £1,185,661, and the loss to the ratepayers for that year in round figures as £34,000, after allowing for all receipts from the property. What this annual loss for past years and for years to come means when capitalised and added to the total cost is simply incalculable. Obviously the property can never under any circumstances be worth a tithe of what, in the end, will have been expended on it. Year by year, as it gets older, more and more will necessarily have to be spent on repairs and maintenance. By the time the sinking fund is clear the dwellings will in some cases be as obsolete as the property they replaced. Already decent working-class people dislike being herded together in these huge blocks situated in congested neighbourhoods. They long for little self-contained houses where greater privacy and decency can be secured. Fifty years hence this desire will be universal, and in my opinion, people will long before then positively object to live in municipal blocks at any price.

No municipal housing scheme that I know of pays. Every scheme is too extravagant and costly. None of them provide for the dregs of humanity, who drift about disseminating insanitation and disease. They all involve the ratepayers in immense capital outlay, and all necessitate more or less heavy annual charges. The only thing that can be said for them is that they do confer benefits and privileges on a limited section of the community at the expense of other sections who can often ill afford such forced philanthropy, and who are in some cases themselves worse off than the very people who are benefited. National and municipal doles may in the past have purchased the worker's vote, but a continuation of the policy will in the end prove as detrimental to the worker as to the nation. Let the nation and the municipalities deal with the idle, the thriftless, the insanitary, and the permanently filthy and vicious. The middle and better class worker, given regular and remunerative employment, can look after himself. Regular work and good wages is what he wants, not spoon feeding.

In the past 98 per cent. of working-class houses have been provided by private enterprise. Jerry-building ceased with the adoption of stringent bye-laws and regulations. The conditions of the past are gone for ever. Builders are public benefactors, pioneers of employment and trade. Building and house-owning is as much a business proposition as the provision of boots and clothes or any other commodity. Tax it and rate it unjustly and excessively, and it immediately ceases. Remove oppressive legislation and encourage it, and all the houses needed, and just the kind of houses needed, will be immediately forthcoming. National or municipal houses are never sold. There is no turnover and no trade, no dealings, no finality; only rates, still more rates and stagnation.

THE PROTECTION OF ANCIENT BUILDINGS.

The Society for the Protection of Ancient Buildings (20, Buckingham Street, Strand, London, W.C.), suggest once more to the clergy and property owners, and others who contemplate making contributions to any work of repair, that their gifts should be conditional "upon the work being done in accordance with the society's view." The annual report just issued shows that the help of the society's architects has been much appreciated in many parts of the country. On the other hand the society recognises the care with which such work is being undertaken. It is noted, in reference to the windows in York Minster, that in recent years "the care bestowed upon all repair to the glazing could hardly be excelled." The authorities in Beverley are congratulated upon the way in which the North Bar is preserved, but it is remarked that the society has "for some time past given the matter careful consideration so that, in the event of this approach to Beverley being considered too narrow for the traffic, it may be ready with a practical scheme to lay before those responsible, by which the need will be met and the Bar saved." Among the buildings "which have come before the Society" during the past twelve months in addition to those named, are Beverley Minster, Boroughbridge Church, Durham Cathedral, Castle Dairy (Kendal), Alwoodley Hall (Leeds), Boar's Head Inn (Middleton, Lancs), Radcliffe Tower (Lancs), Rothwell Church (Lincs), Sprotborough Church, Terrington Church, and Tickhill Church.

"A PASSION FOR THE PARENT OF THE ARTS."

In the "Daily Chronicle," Mr. C. Lewis Hind prefaces a notice of the Civic Arts Association Exhibition with some searching questions, to which the R.I.B.A. has no doubt a complete series of answers, which, however, are but little likely to be made public.

The Civic Arts Association is but a year old, but it has already done sterling work. Some harvest of its early tilling may be seen at the galleries, 9, Conduit Street, of the Royal Institute of British Architects. The Institute is eighty-two years old, and is hardly known to the general public. Why? Why is not the Royal Institute of British Architects as influential and popular as the Royal Academy? Architecture—our public buildings, our homes, city improvements, town-planning—is infinitely more important to most of us than paintings. Why is there not an annual exhibition of architectural drawings translanted into a pictorial and attractive form, with models of new buildings, civic and domestic, and models of new town-planning schemes wandering through meadows and winding by little streams?

Why have we never been shown a gay, gala-like model of the Hampstead Garden Suburb? Why does not the Institute show a model of the vast Charing Cross Improvement Scheme, on the lines of the "model of a town-planning scheme for the city of Oporto, Portugal," by Mr. Barry Parker, in the Royal Academy Exhibition? Why are not Press and private view tickets sent out for new buildings? Architects are too modest. They have allowed themselves to be persuaded that architecture is an accessory, whereas it is the Parent of the Arts and the one art in which every citizen is vitally interested. Perhaps, after the war, a president and secretary of the Royal Institute of British Architects will arise with a genius for organisation, with enthusiasm, visionary as well as practical, who will intrigue the public, and architects also, into a passion for the Parent of the Arts.

The auguries are hopeful. The war has roused the Institute of British Architects as it has roused us all. The Institute is taking a leading part in the Charing Cross Improvement Scheme, and it has encouraged the Civic Arts Association to exhibit in its galleries the best designs in their competition for war memorials.

OBITUARY.

Lieutenant H. H. Atkin-Berry, R.N.

Lieutenant Harold Harding Atkin-Berry, R.N., who was killed in action at the age of twenty-four years, was the third son of Mr. W. H. Atkin-Berry, F.R.I.B.A., and Mrs. Atkin-Berry, of St. Margarets, West Hill, Sydenham.

Second-Lieutenant F. Saxon Snell.

Second-Lieutenant Frank Saxon Snell, B.A.Cantab., Royal Berkshires, who was killed on action on July 11, at the age of twenty-nine, was the only son of Mr. A. Saxon-Snell, F.R.I.B.A., and Mrs. Saxon Snell, of Cranford, Cookham Dean, Berks.

Second-Lieutenant A. B. K. Cook.

Second-Lieutenant Arthur Basil Kemball Cook, Royal Fusiliers, who was killed on July 1, aged thirty years, was a son of Mr. A. K. Cook, of "The Close," Winchester. He was a Scholar of Winchester and New College, Oxford, and by profession an architect.

Second-Lieutenant C. K. Howe.

Second-Lieutenant Charles Kingsley Howe, Berkshire Regiment, who fell on July 1, had studied under Mr. Edmund J. Sullivan, A.R.W.S. He joined the teaching staff of the Goldsmiths' College Art School, Hatcham, and had exhibited at the International Society of Sculptors, Painters, and Engravers. He enlisted in the Artists' Rifles in September, 1914, and obtained a commission last year.

Captain E. M. Gregson.

Captain Edward Maurice Gregson, Loyal North Lancashire Regiment, who fell on June 28, aged twenty-six years, was the elder son and a partner of Mr. G. E. Gregson, of Liverpool and Southport, surveyor and agent to the Hesketh estates. On leaving Shrewsbury School he was articled to his father at Preston as a surveyor and mining engineer. At the outbreak of the war he was a Professional Associate of the Surveyors' Institution, and was studying for his Fellowship. He had served at the front since May of last year, and was in the fighting at Festubert.

Captain G. Dickins.

Captain Guy Dickins, King's Royal Rifle Corps, who died from wounds on July 17, was the son of the late Mr. A. L. Dickins, of Hopefield, Manchester. He was a scholar of Winchester and New College, Oxford, taking a First Class in the Final Classical Schools, 1904. As a Craven Fellow he worked for some years in the British School of Archæology, Athens; he was elected Fellow and Lecturer of St. John's College, Oxford, in 1908, and published, with other books, the Catalogue of Sculptures in the Acropolis Museum. He obtained a commission soon after the war began, and was gazetted captain in 1915.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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4 *lines* (*about* 28 *words*) 1s. 6d.; 3 *insertions*, 3s.

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ADVERTISER is open to take sub-contracts. Labour only. Any trade.—A., 39, Albert Road, Walthamstow.

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ARCHITECT and Surveyor's Assistant (25) disengaged; seven years at last position; rejected from Army.—Box 858.

BUILDING Contractor wishes engagement on any work where his experience would be of value. Excellent reference over 30 years. Employed 60 men on mason and brickwork, knowledge of all branches, ferro-concrete, furnaces, heating, estate work, sanitation, purification works, water supplies. Plans, specifications, levelling.—Box 862.

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PLUMBER (good) and Mate want work. Age 40. —R. Cornelius, Plumber, 5, Acre Square, Clapham Park Road, Clapham, S.W. 856

REPRESENTATIVE, energetic, connection leading provincial architects, builders; good technical knowledge building, desires engagement with specialist firm; age 45; salary, expenses, and commission.—Box 846.

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

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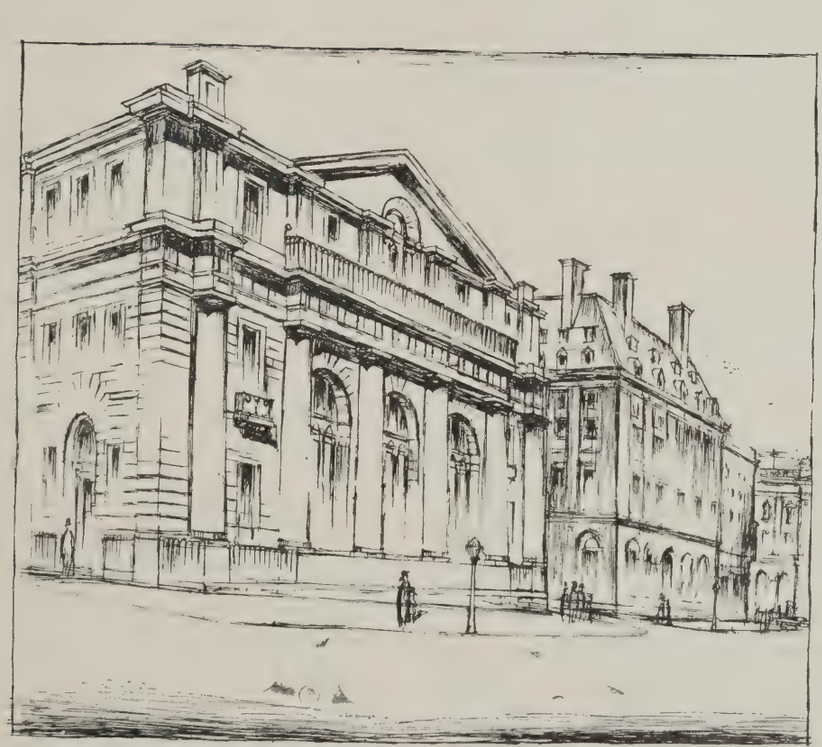
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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, August 9, 1916. Volume XLIV. No. 1127.



BRANCH BANK OF ENGLAND, MANCHESTER. C. R. COCKERELL, ARCHITECT.
DRAWN BY GORDON HEMM.

(*See page 64.*)

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 9, 1916. TOTHILL STREET, WESTMINSTER. VOLUME 44. No. 1127.

EDITORIAL.

THAT private rights should not be allowed to override public interests is an axiom that is too often ignored in practice. Rights of light and air, for example, act in restraint of trade, as Mr. Quennell demonstrated very clearly in his admirable article on the subject in last week's issue. Not only do they harass and worry architects and builders, but they deter persons from building by making the operation very much of a gamble, with large stakes at issue; for there is no certainty as to the extent of the liability until the Court has declared the amount of the damages and the lawyers' bills of costs have been presented. Hitherto those who are chiefly and most directly concerned in this matter have shown too much gratitude for small mercies. They expressed, for instance, an almost pathetic gratitude for the small measure of relief afforded by the leading case of Colls v. Home and Colonial Stores; in which the decision really seems to have done more harm than good by its effect as a soporific, while the measure of fairness it meted out has been by no means consistently maintained in subsequent actions, the standard varying with the constitution of the Court.

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The issue of an action still depends on the facts of any particular case, on the manner in which they are set before the Court, and on the healthiness or otherwise of the digestive system, physical and mental, of the judges—that is to say, largely on chance, whim, and caprice. In spite of the many actions that have been fought out to the bitter end, and in spite of all the legal and technical subtlety that has been lavished upon them, no clear principle of guidance for the architect and builder has been as yet evolved. Building in towns is therefore too much dogged and daunted by legal hazard. These conditions have been hitherto accepted with marvellous docility; but how the yoke has galled Mr. Quennell's experience makes only too plainly evident. "Such is the law and such is the interpretation thereof" has been too long a formula of unquestioned authority. An inquiry into the ethical soundness of the law has become imperative simultaneously with the perception that in the impending international struggle for commercial supremacy every retarding influence must be swept away.

* * * *

To deprive a man of his acquired rights of light and air, and thus to lessen appreciably the business efficiency of his premises, is, from the rational, national, and equitable point of view, an effect to be studiously avoided. Advocates of reform have no desire to transfer a burden nor to inflict an injury; but they justly claim protection against rights that can be, and have been, exaggerated into an iniquitous monopoly. They ask that, in the national interest, they shall no longer be intimidated by the fear of unascertainable liabilities from erecting the buildings which are necessary to meet the new national emergencies.

* * * *

For uncertainty they want substituted the enunciation of a clear principle which shall afford them definite guidance as to what they may and may not do. They have a moral right to this guidance, and to get it gratis before they begin to build, not at enormous expense and inconvenience after they have built; and some means of assurance that they shall not be prosecuted and persecuted upon a debatable issue can surely be, and must be, devised. Such debatable points as may arise could be determined inexpensively by a properly constituted building court, whose permission to build should preclude action at law. There should be as much finality and certainty in defining and prescribing the perpendicular as there is in settling the horizontal building line, and ultimately this will be done; but to postpone this very necessary reform is to incur a very serious responsibility—in fact, to give hostages to the enemy trader.

* * * *

Truly the gods are descending from Olympus. In a most opportune article which he contributes to the "Daily Telegraph," Mr. Ernest Newton, A.R.A., expands and illuminates Mr. John Burns's *obiter dictum* that "Beauty is not only pleasing to the eye and consoling to the mind in a great city. It pays in solid cash." Mr. Newton welcomes the *rapprochement* between art and business. Each has got what the other wants. That they do really want each other is now evident. Formerly the business man "had no use for art." Now he has discovered that it is a good business asset—that money spent on good building and attractive decoration is really an excellent investment, returning him some fifty and some an hundred fold. It is to the Americans that we are most indebted for this change of attitude. They have long anticipated us in the full and general realisation that good building is good business. No respectable American citizen would care to be seen entering a meanly built bank, and his wife scorns to do her shopping in any but the most palatial stores.

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Our American visitors (being an outspoken people having made these preferences plain, our business men have acted upon the hint. But the root of the matter lies deeper than that. Commercialism is everywhere mitigating on its initial severity. At first bent exclusively on money-getting, it afterwards cast about for agreeable means of spending wealth and leisure, and consequently developing—slowly it may be, but nevertheless surely—a sense of beauty. Perhaps Mr. Newton's wisest and happiest word is that while the

commercial community cannot afford to neglect the element of beauty and impressiveness in its surroundings, an art which is divorced from the national life degenerates into an arid intellectual æstheticism; and architecture, as the expression of life, has the advantage over most other arts of being visibly utilitarian, in three dimensions. The New Commercialism, dignified by art, is well in sight. What of the New Architecture, vitalised by business? It is certainly in process of evolution, and no doubt the arrest of development caused by the great business of the war is for its ultimate good. On the rebound, it will take on a nobility that it would otherwise have lacked.

* * * *

Since the war broke out, the expression "coast defence," once common, has assumed a sinister significance that forbids its further use with reference to civil-engineering measures against erosion. At a meeting of the Eastern Sub-district of the Institution of Municipal and County Engineers, held last week at Sheringham, "coast protection" was the chief subject of discussion, and apparently there was no reference to coast defence in the military sense. This, we think, was a serious omission. Not that it is a matter of immediate importance, now that the Germans have so glutted themselves with their stupendous victory in the North Sea that they have lost all appetite for further maritime adventures; but there is the future to consider, and the openness of our coasts to cowardly attacks by sea savages is surely a vital factor in the problem of coast defence. If, after the war, the Germans are permitted to retain a fleet, the best guarantee that they will not use it suddenly and treacherously for the bombardment of defenceless seaside towns is to provide that those towns shall not remain defenceless.

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It has become quite clear that the Boche has but little relish for hazardous enterprise—that he is not in any sense a sportsman; and knowledge that at any point he chose to attack he would certainly meet with a hearty response would have great weight in his councils. Some system of coast fortification, it seems to us, is bound to come; and this consideration renders rather futile the conclusion at the meeting that coast protection should be a local rather than a national concern, except that the Government would be expected to contribute to the funds! Furthermore, it came out at the meeting that "work in one district under present conditions might cause considerable injury in another district." There is also, we gather, some difficulty in getting adjoining authorities to co-operate. Altogether, it seems eminently desirable that the entire coast should be nationalised. There are, we are quite well aware, formidable obstacles to such a course, but they can and must be swept away; and we must confess that we have no patience with such pettifogging parochial views of the situation as those expressed at this meeting of the Eastern Sub-district of the Institution of Municipal and County Engineers.

* * * *

Builders are bearing with exemplary patience and patriotism far more than an average share of the burdens of the war. It would be safe to say that no class of business has been so hard hit, directly and by ricochet. Yet they have not murmured nor rebelled. They were content to suffer and make sacrifices for their country; but their loyal and cheerful endurance of whatsoever hardship seems necessary in this cause entitles them, surely, to more consideration than they are getting in the courts with respect to interrupted contracts. Two cases which were tried last week had results that seem to confirm this view. In at least one of these cases, if not in both, it seemed as if the contractor was, in effect, to be penalised for not doing what national emergencies had prevented his doing. It is as if the Government had bound him hand and foot and handed him over unconditionally to the tender mercies of the other party to the contract; and such cases lend point to the historical cabman's discrimination between the Courts of Justice, which he professed himself unable to locate, and the Law Courts, of whose whereabouts he was aware with the familiarity which breeds contempt—of courts.

* * * *

In the one case a builder had agreed to build a house of specified cost and description within a stated time, on land leased to him on those conditions; the agreement being signed shortly before war was declared. What position builders were in when the cataclysm occurred we all know. This particular builder found that owing to the scarcity of labour and increased cost of materials, he could not complete within the specified time. He asked for an extension, which was refused, and eventually the landowner took possession of the site and all that was on it; whereupon the builder claimed damages for breach of contract, or, alternatively claimed for work done and materials supplied. He pleaded that the time limit in the contract was rendered void by the operation of the Courts Emergency Powers Act. It was held by the Court that the landowner was within his rights in taking possession; "the circumstances which supervened after the outbreak of the war rendered the plaintiff's position more difficult and more expensive, but he was not thereby relieved from his obligation to complete the building at the date specified in his contract." Also he had not proceeded with the work with diligence and dispatch, and had therefore committed a breach of the contract. Furthermore, the Courts Emergency Act did not apply. All which is unquestionably flawless law, although builders cannot be expected to rejoice and be exceeding glad at its deadly precision.

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In the other case, Messrs. Dick, Kerr, and Co. had contracted to construct the Littleton reservoirs for the Metropolitan Water Board. When, in February of the present year, the work was stopped by the Ministry of Munitions, the contractors assumed that, the continuance of the contract having become impossible and illegal, it had come to an end. The Water Board thought otherwise, and went into Court for a declaration that the contract was binding, and that the contractors' plant and materials should have been left on the site until the work was finished. As a matter of law, the Water Board was irrefragably right; the judge held that on the facts the contract had not been abrogated. Therefore, as contractors' counsel said, "the defendants might be held back indefinitely and yet would have to be ready to go on again at any moment. That would mean that a quantity of capital must be kept locked up in readiness to carry on, though permission to do so might be given." Then a strange thing happened. The Court interposed to temper the rigours of the law with an infusion of common sense. He invited the rival counsel to meet him in his private room, where, presumably, all were more free to talk like human beings rather than as blind accessories of the legal machinery. At any rate, some sort of mutual arrangement was made, on the understanding, it would seem, that, pending further orders from the Minister of Munitions, the contractors' plant was to remain on the job. Clearly the law, devised equitably enough for ordinary circumstances, breaks down under the stress of the present exceptional conditions, which should be met, we think, by the establishment of an inexpensive emergency court or committee, empowered to deal summarily with such cases as those we have here outlined.

HERE AND THERE.

NEARLY a score of years before Addison and Steele brought out the "Spectator," curious John Houghton, F.R.S., published, on Wednesday, March 30, 1692, the first number of "A Collection for Improvement of Husbandry and Trade." Utility before amusement. It is a trite reflection that while fame awaits those who succeed in amusing us, we hasten to forget the names of those whose activities are merely useful. While Addison and Steele are immortal, John Houghton is hardly remembered now, although in his own day he was recognised as "a person qualify'd and dispos'd to the service of his country"—a testimonial to that effect was signed by eight-and-twenty men who may be presumed to have been of high standing in that day, seeing that the list of them includes Dr. Robert Plot, John Evelyn, Samuel Pepys, Hans Sloane, and Edmund Halley.

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Houghton, indeed, was the founder of technical journalism, and was fully conscious that his was a high calling. Also he made it a wide one, embracing everything in the nature of "husbandry and trade." His first two papers having been purely introductory, it is in his third issue that he comes to grips with the work. He comes in on the ground floor: "In the beginning of the world God created the heaven and the earth, which is all I can say about the beginning of matter." He is anxious to be accurate. "Earth in the strictest sense," he tells us, "is a gross matter freed from all things that may be called by another name, what the chymists call (*caput mortuum*) the dead head, (*terra damnata*) the damn'd or condemn'd earth, that from which, by the ordinary known Arts, nought can be extracted." It looks very learned, although one does not quite know what it means. This unholy *terra* is often met in bad foundations, and is still commonly described in very similar terms, with a marked preference for the shorter of them. Houghton quotes "the most excellent gardiner, John Evelyn, Esq., F.R.S." for the studiously moderate statement "that there are reckon'd no fewer than one hundred and seventy-nine millions one thousand and sixty different sorts of earth." Most of them bad for foundations.

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From these Houghton selects such as relate to tillage and the useful arts. I come to clay by jumping the numbers in which Houghton spreads information with a free hand, as he here indicates: "I have in the best manner I could learn, given the nature and true effects of earth, water, air, and fire, I have epitomised and explained the doctrine of fermentation agreeable to the principles of the learned Dr. Willis, and done several other things that I thought necessary to be known in order to the regular and well understanding of husbandry and trade; I shall now descend to as perfect histories of things as I can learn, both mineral, vegetable, and animal, and for instances shall take clay, wheat, and a cow, and I'll begin with clay, and not tie myself so, but to interline some other matter when it fairly offers"—thus anticipating what has become an inveterate habit of the journalist, technical or other.

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He quotes from Dr. Martin Lyster, "the great naturalist and encourager of this work," a "table of clays," which, investigators may like to know, originally appeared in the Philosophical Transactions, No. 164, p. 745. Pale yellow clay was found in the marlpit at Ripley; a dark blue clay or marl at Tolthrop; milk-white clay in the Isle of Wight; potters' pale yellow clay at Wakefield; clunch in Cambridgeshire, and so forth. In Staffordshire, in those days, it appears, they had no better idea about their rich deposits of clay than to "plow" it for crops. Speed the "plow"! How is it that modern spelling has deteriorated so idiotically? "A chymical Anatomy of clay," Houghton regrets, "I cannot find in books."

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Quoting hereabouts from "the curious Mr. Evelyn" (every pundit cited is the curious, the learned, the ingenious, the excellent Mr. So-and-so), he states on that gentleman's authority, "that timber, when dry, may be preserved, 'tis good to be wrapped about in mortar." If that was all that they knew about wood-preservatives, they escaped an embarrassment of choice that to some extent atoned for their handicap of the hundred and seventy-nine millions odd of different sorts of earth. Another compensation that these ancients had was that in Derbyshire "coles" were "3½d. the hundred." To compare that with the current prices for Best Derbyshire Brights is to feel like one born out of due season.

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By way of "interlining," Mr. Houghton notes that in Derby "one Mr. George Sorocold has set up a water-house to convey water-pipes to all the houses in the town that desire it, and 'tis likely that it will be much used." This item must have turned Londoners green with envy, for theirs was then got from the Thames in buckets; unless Lamb's Conduit and the Aldgate Pump were much earlier institutions than I imagine them to be, and the New River had hardly been completed. Yet Sorocold's monopoly was not so small a beginning of greater things as was the source of "the river upon which Derby is built"; for "above Rowsley, where the head of it is, it may be stopt with an oat-sheaf."

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Houghton's Derbyshire correspondent, who supplies him with materials for three or four of his weekly papers, tells him that near Chatsworth there is "store of iron oar, of which are made rods, nails, and other utensils; also rich quarries of mill-stones, and they serve most part of the kingdom, and they are worth eight, nine, or ten pounds the pair, and grind-stones of all sorts, from five or six foot diameter and under, and scythe-stones in abundance, which serve all parts of the kingdom. There are also quarries of free-stone alabaster, and marble; of which as curious works might be made as the world affords. There is also abundance of brick and tobacco-pipe clay, and my friend never saw better brick made or burnt. There is also store of lime, which makes as good mortar as can be used; and critch-lime is carried up and down for whiting, being as pure as any chalk. There is also great store of plaister, which, being burnt, is thresh'd to powder, to which it turns with ease being new; this being well wrought with water, and spread on a floor in a few days will be as hard as brick, and may be made as smooth as glass, but the floors are commonly made part of old and part of new plaister, and the new alone is used for drawing a thin fine white coat over the grain (viz., old and new beaten together, and if this prove to be curiously burnt, neither too much, for then it will be more soft when the floor is cast, and will sweep up in a short time, unless extremely watered, which sometimes recovers it: nor too little, for then it cannot be threshed to any purpose, and so makes the floor all lumps, as if it was full of stones, which will also be the ruin of it. But if both these extremities be avoided, it will continue a firm floor for hundreds of years, though constantly trod upon, and will be safe from all danger of fire." He was told by "a person of honour" that this marvellous material was "plaister of paris." And how, this is surely a very early instance of the mention of fire-proof floors. But how did he know they would last hundreds of years?

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He has what is historically a very interesting account of brickmaking. He states that a man could make



Photo: Bedford Lemere & Co.

CURRENT ARCHITECTURE (SERIES III.). XLVI.—NEW ZEALAND GOVERNMENT BUILDING, STRAND, LONDON.

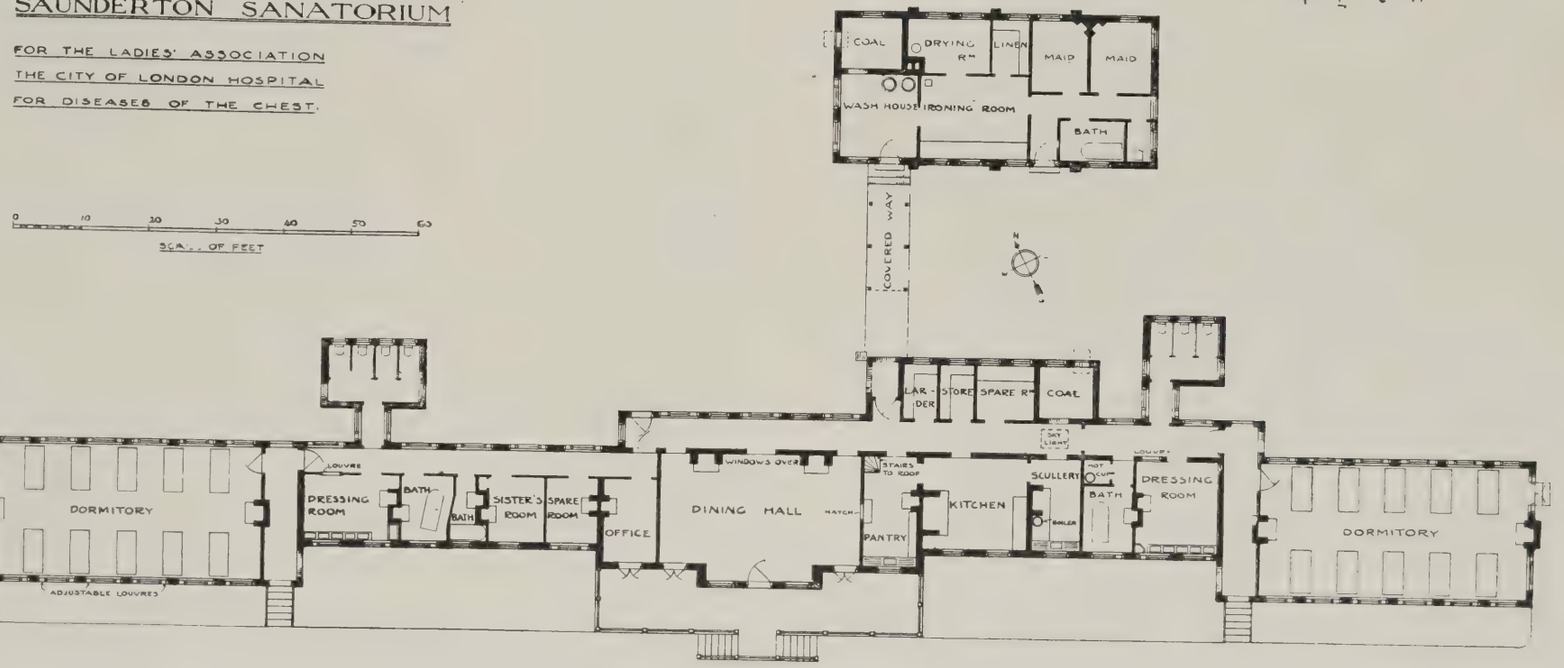
CRICKMAY AND SONS, ARCHITECTS.

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SAUNDERTON SANATORIUM

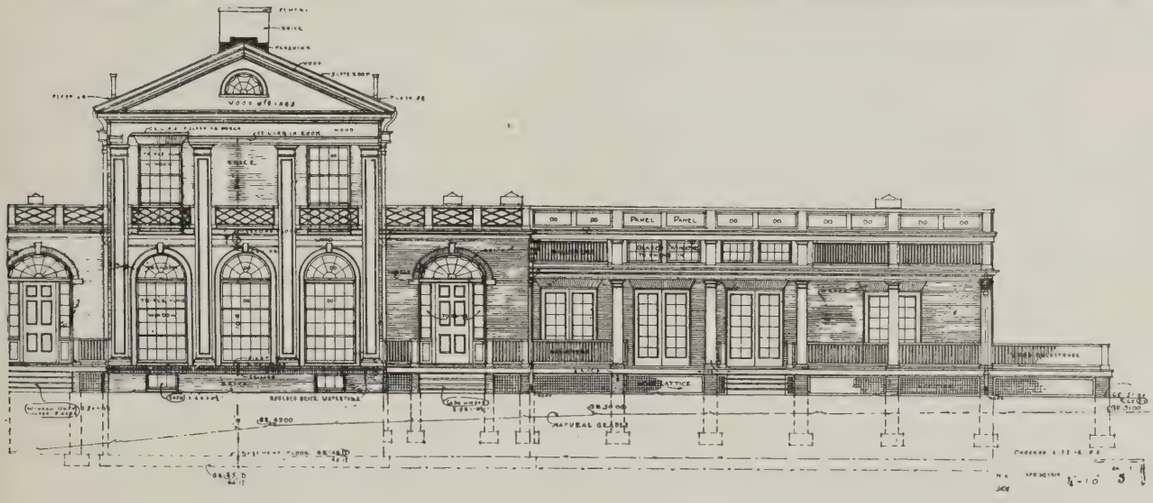
FOR THE LADIES' ASSOCIATION
THE CITY OF LONDON HOSPITAL
FOR DISEASES OF THE CHEST.

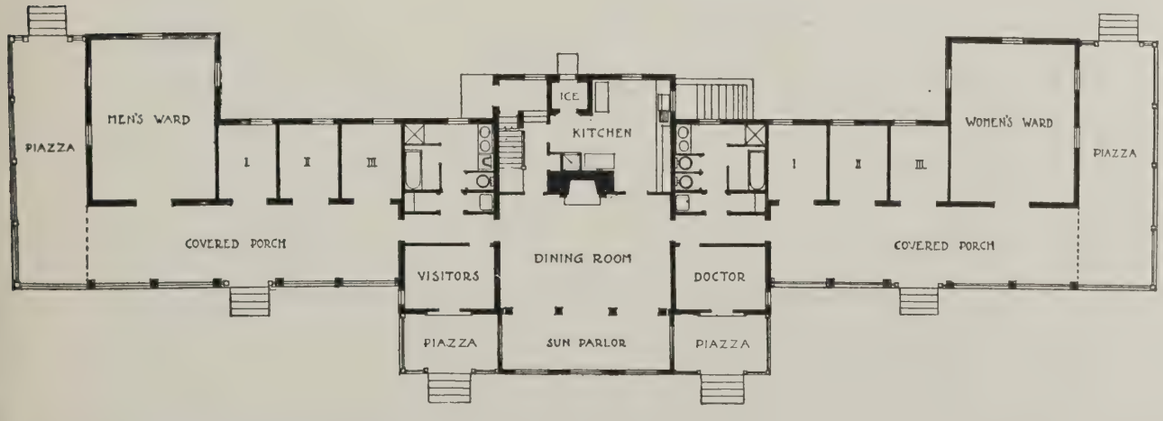


CURRENT ARCHITECTURE (SERIES III.).—XLVII. MANNING ROBERTSON, A.R.I.B.A., ARCHITECT.

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MODERN AMERICAN ARCHITECTURE (SERIES II.). III.—CARTER MEMORIAL HOSPITAL, LANCASTER, MASS.

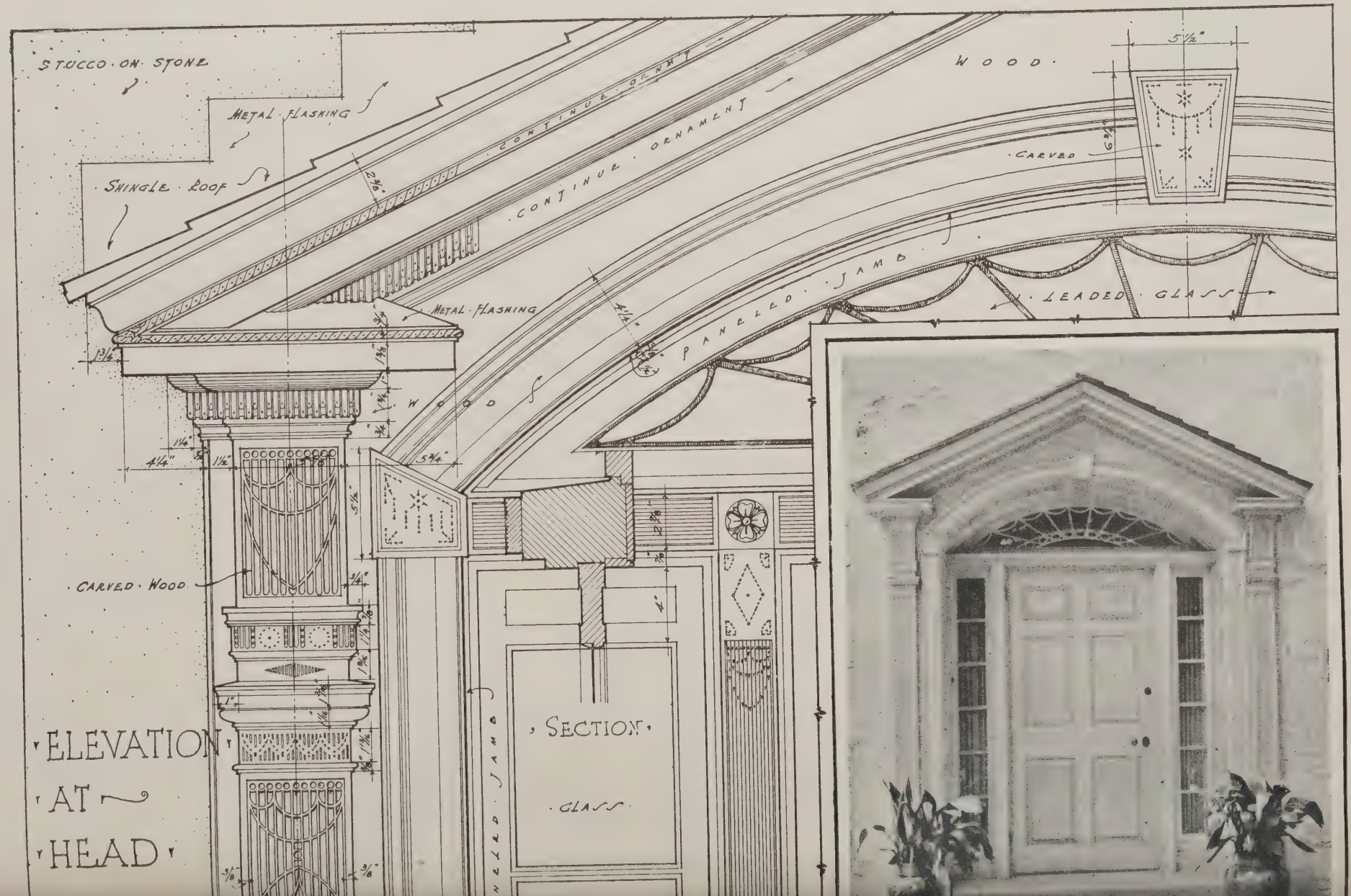
LORING AND LELAND, ARCHITECTS.

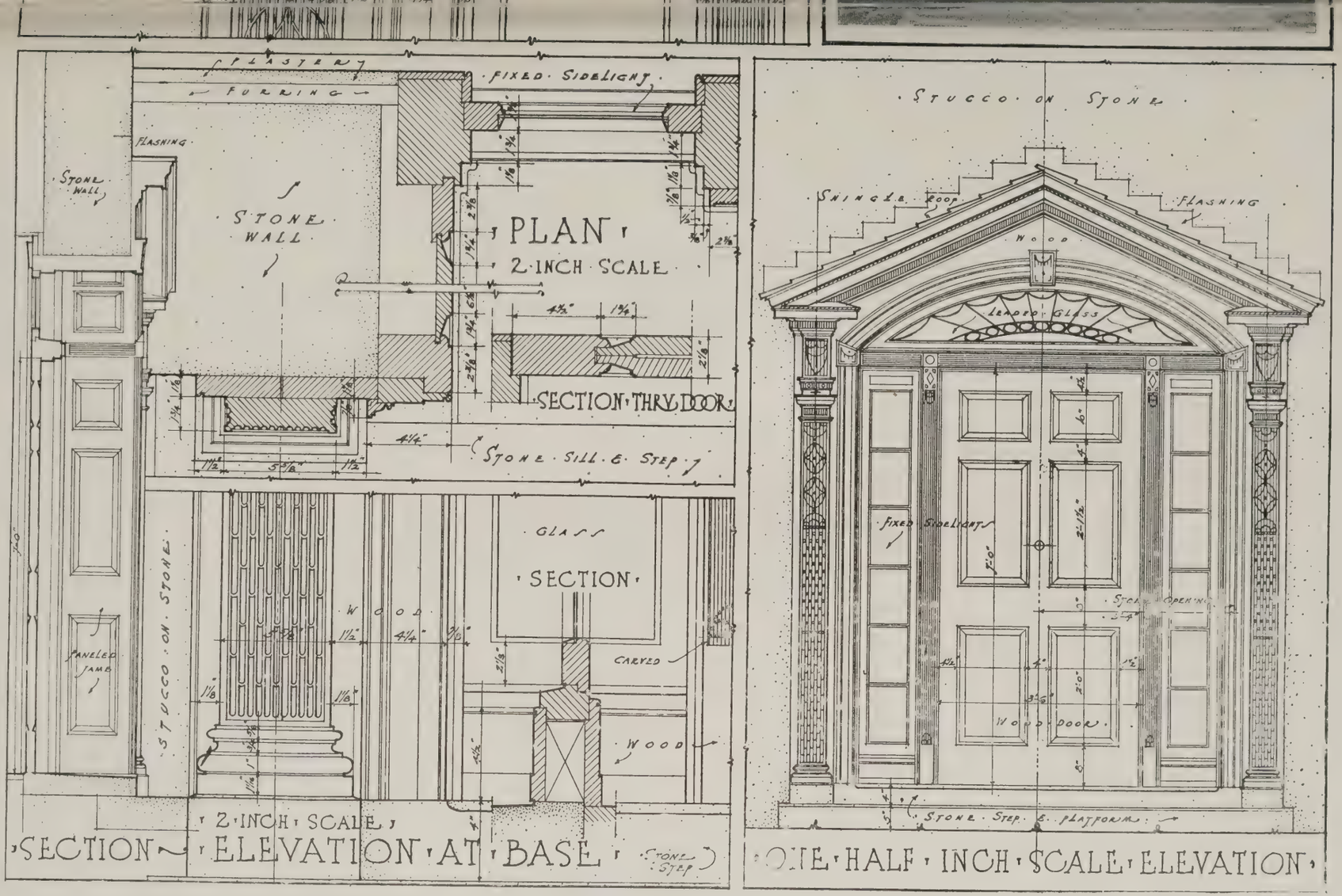
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DETAILS OF CRAFTSMANSHIP (SERIES II.). XIII. A HANGING LAMP: MODERN FLORENTINE. BY BACCETTI.

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STUCCO ON STONE
METAL FLASHING
SHINGLE ROOF
CONTINUE ORNMT
CONTINUE ORNAMENT
WOOD
5½"
CARVED
9¾"
METAL FLASHING
2½"
PANELLED JAMB
LEADED GLASS
CARVED WOOD
SECTION
GLASS
PANELLED JAMB
ELEVATION AT HEAD



DOORS AND DOORWAYS. VII.—AT HOUSE AT VALLEY FORGE, PENNSYLVANIA. DUHRING, OKIE, AND ZIEGLER, ARCHITECTS.

DRAWN BY WALTER McQUADE.

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fourteen thousand or fifteen thousand a day; "but Nicholas Gooding, of Hammersmith, for a wager of £10, made in one day 22,000 bricks, upon which Sir Nicholas Crisp assisted him to set up, and he is now living at Hammersmith, and worth several thousand pounds." Houghton's account of bricklaying clinches the observations on old brickwork made by the district surveyor in the course of a lecture at the Concrete Institute, which we summarised a few weeks ago.

* * * *

"A brick wall of a foot and a half thick," says Houghton, "is commonly made by stretchers and headers—that is, by laying on the out-side one brick, so as to have the narrowest side of it to be seen long-ways, and next to have only the end seen, and the brick lying on the broad side, and so on, a stretcher and a header. On the other side of the wall is done the like, only the header is laid against the stretcher, and the stretcher against the header; by which means there will be a great many hollow places, which usually are filled up with batts, or small pieces of brick or stone, but sometimes for cheat or covetousness, with charnico (rubbish), or any sorry thing can be met with."

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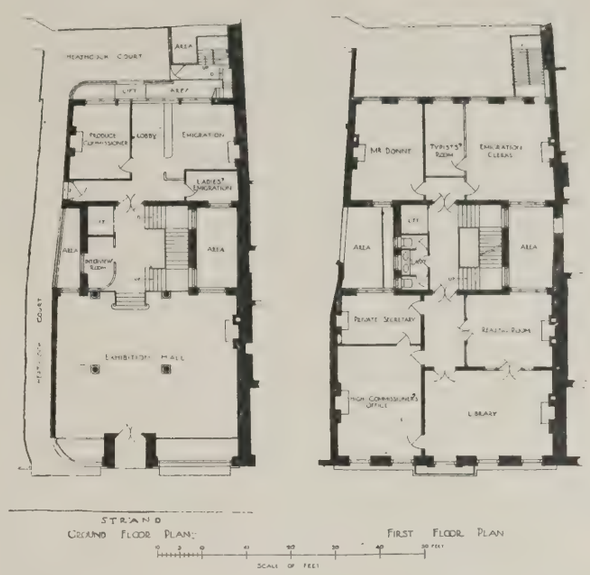
The bricks "are laid in mortar made of a load of sand, and one hundred or five and twenty bushels of slak'd lime with water well mixt, which is the best sort of common mortar; but sometimes 'tis mixt with blood, scales of iron, and several other things, but very often rubbish, dirt, or other matter serves, with a less quantity of lime." Cheat and covetousness.

* * * *

"With bricks, beside walls, are made pavements, water-courses, and what not. They serve for offensive weapons, tilters of beer, steps to get over dirty ways by; made hot in a cloth, applied to a pained part, they often ease it, and cause sweating; they are good to receive matters wet or dry, for fumigation; and at or near Hambrough, I am informed, 'tis customary to put a hot brick into their meal or dough, and let it lie sometime in it before baking, when they make bread; whether 'tis always, or only in cold weather to help it to rise, I know not." Brick powder, he says, was used by chymists "for divers purposes, as in powder to mix with several things to separate them, and hinder their clinging together or rising in a body, or by making it in lumps as big as pigeons' eggs, red hot, and quenching them in oil olive, as in oil of bricks, mentioned in the London Dispensatory." One more quotation: "I am told that in Russia they use sun-burnt bricks; and I know a gentleman of Bedfordshire did the like, as he told me, to good purpose. And the Tower of Babel, I am informed, was so built."

Quaint, credulous, garrulous old John Houghton! If you have not previously met him, I am delighted to have been the medium of introduction.

NEMO.

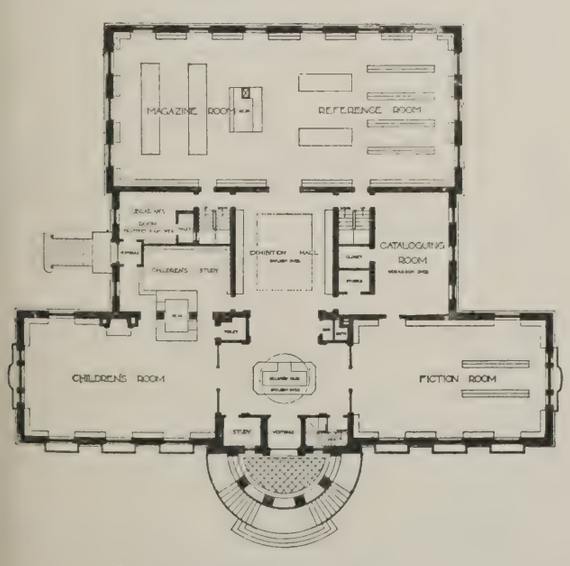


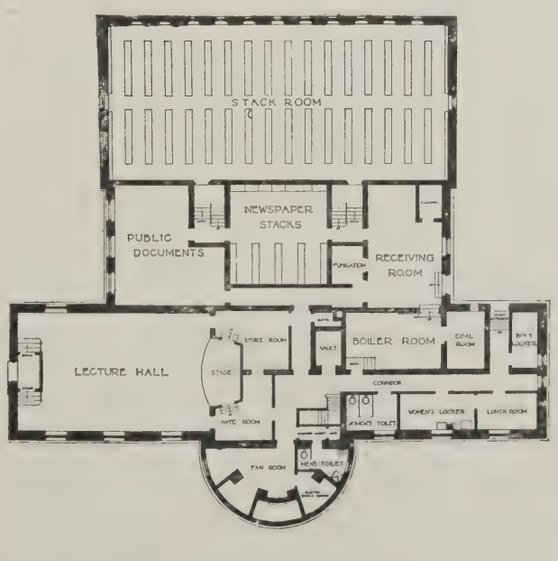
NEW ZEALAND GOVERNMENT OFFICES, STRAND, W.C.
CRICKMAY AND SONS, ARCHITECTS.

THE PLATES.

New Zealand Government Offices, Strand, W.C.

THE front of this building, which comprises six floors in addition to the ground floor and the basement, is of Portland stone, white glazed bricks being used for facing the back and the areas. Westmorland green slates cover the mansard, but the main roof, being flat, is constructed of steel and concrete, covered with asphalte. The exhibition hall on the ground floor has a coffered ceiling, and the Ionic columns shown on the plan are of grande antique marble, with bronze caps and bases. Its floor is of Roman mosaic with panels of rich-





CARTER MEMORIAL HOSPITAL, LANCASTER, MASS. LORING AND LELAND, ARCHITECTS.

coloured marbles. The main staircase is of Pentelikon marble, with wrought-iron balustrade and bronze handrail. The High Commissioner's room, library, and reading-rooms, which are all on the first floor, have enriched plaster ceilings. Messrs. Crickmay and Sons, 13, Victoria Street, Westminster, are the architects, and Messrs. John Greenwood, Ltd., the builders. The marble work was executed by Messrs. J. Whitehead and Sons, Ltd.; the metal-work by Messrs. J. W. Singer and Sons, Ltd.; the enriched plaster ceilings by the Bromsgrove Guild; asphalte by Claridge's Asphalte Co. The lift was installed by Messrs. Waygood-Otis, Ltd. Plans are given on p. 63.

Saunderton Sanatorium.

This sanatorium is situated in the Chiltern Hills, near Saunderton Station, where the "middle" chalk comes nearly to the surface. It stands on the side of a hill, in fifty acres of its own land, facing S.S.W. A pine and beech wood forming an arc on the crest behind it affords protection from the N. and N.E. It is intended for use as a convalescent home in cases of tuberculosis which require a change of a month or two in the country to complete the patient's recovery. The plan was arranged under the supervision of the late Dr. Glover Lyon, head physician to the hospital. It includes two buildings, each of a single storey, and provides accommodation for twenty female patients. The main building is devoted to the patients, the sister, and the necessary offices; the smaller building contains a laundry and accommodation for two maids. It may be mentioned that the patients will assist in keeping the place clean and also do some at least of the laundry work. The main consideration has been to secure thorough ventilation. The dormitories, which will hold ten beds each, are provided with adjustable louvres on each side of the windows; these louvres open at the height of 4 feet above the floor, thus avoiding any direct draught on the patients' heads. The dormitories are isolated from the remainder of the building by means of passages open to the fresh air at each end. The principle of through ventilation is carried out in the dressing-rooms by providing fixed louvres into the corridors, which in turn communicate with the open air by means of another series of fixed louvres on each side of the windows. The doors into the dining hall from the corridor open in two heights, and above the doors there are small windows looking out into the open over the roof of the corridor. The sanitary blocks are cut off by lobbies fitted with windows and louvres as shown on the plan. The two maids will live in a suite to themselves in the other block. The patients will dress and undress in the dressing-rooms, which are supplied with hot and cold water, and during the day they will, so far as is possible, be kept out of doors working in the garden or on the land. The dining hall, which opens on to the balcony in front, will be used as a living-room. For heating, open fires only will be used, on the principle that heat by radiation is not incompatible with open windows and louvres, whereas the air heated by radiators would, in the same circumstances, be dispersed, thus tending to promote the habit of closing windows. No system of central lighting is at present being installed. The sewerage is carried to a cess-pool, whence it will be utilised on the land. Water is supplied direct from a water tower on the slope at the back; a 5-in. bore-hole has been sunk to a depth of 225 ft. into the chalk and a Crossley oil-engine, 2½ B.H.P., is capable of pumping at the rate of 800 gallons per hour for an indefinite period. The architect is Mr. Manning Robertson, A.R.I.B.A., of 50, Norfolk Square, Paddington, and the contractors are Messrs. Franklin, Ltd., of Deddington.

Carter Memorial Hospital, Lancaster, Mass.

This hospital, which in the elevation is faintly but pleasantly reminiscent of Georgian work, has been planned for tubercular patients; hence special care has been taken to give free access of sunshine and air, and in other ways to render the building cheerful and pleasant as well as salubrious. Two long one-storey wings of wards flank a middle portion of two storeys and basement. On the ground floor of the middle portion are a diet kitchen, a refectory, a sun room, and a few minor offices; in the upper storey, three private rooms with bath, and a bathroom for the nurses. Small wings right and left are respectively occupied by an office for the physicians and a visitors' room. In front of the central pavilion is a two-storey porch, roofed by the projection of the gable, and enclosed on the ground-floor by filling the spaces between the pillars with broad arched windows. Wide door-windows opening on the broad porches enable the wheeling-out of the patients in their beds for fresh-air treatment when the weather is favourable. A glazed lower porch in the middle portion provides for sheltered sun treatment. A row of small windows just above the roofs of the porches of the long wing are arranged to admit sun to the wards from which it is otherwise cut off by the necessary porch roofs. Every room has a cross-current of air, and in winter the incoming fresh air is warmed by the radiators. The building shows, we think, as hospitals seldom do, an architectural effect that seems natural and spontaneous, although it really springs, here as always, from good proportions and the knowledgable but unaffected use of means and materials.

A Modern Florentine Hanging Lamp.

Modern Florence has not entirely lost its ancient reputation as the home of all the arts, and this lamp is an excellent specimen of spirited design and competent art craftsmanship. Although the chains are perhaps a little exuberant, the design as a whole is rich without being aggressively ornate. Even if the decorative details were subdued to extreme plainness, the lamp would remain an admirable example of scale and proportion.

Doorway of House at Valley Forge, Pennsylvania.

A nice taste in doorways is the hall-mark (no equivoque is intended) of much of the domestic work of America, where they seem to have taken to heart the motto, "Take care of the doorway, and the rest of the elevation will take care of itself"; which is sound doctrine in so far as it implies that the architect who knows how to design a good doorway, and to invest it with a winning smile of invitation, will take though that the rest of the front shall not disgrace or contradict it. Wren employed this knowledge with fine discretion; but Robert Adam rather exaggerated it. Adam influence is rather potent in the doorway shown in the present plate. The detailed drawing is another admirable example of Mr. Walter McQuade's extraordinary skill in converting a working drawing into a veritable work of art.

Branch Bank of England, Manchester.

It is to be feared that the general public (including the writers of guide-books) seldom recognise the merits of a building until they discover that someone has thought it worth illustrating, or until they are told that it is the work of a great architect. This has been the fate of the Branch Bank of England at Manchester, of which a drawing by Mr. Gordon Hemm appears on page 59. Guide-books commonly call it "a gloomy Doric structure," but it is in Cockerell's best manner, and no more need be said in its praise.

PICARDY VILLAGES AND THEIR ARCHITECTURAL INTEREST.

BY G. J. HOWLING.

THE British Army now engaged in the Somme offensive will carry with it many memories of Picardy villages. For it was into the villages ehind the line, during the long months of prepara- on for the advance, that the troops fell back for est after spells of work in the trenches. From an minence, "somewhere" a few kilometres to the ear, you may get a commanding view of these illages, as they lie scattered about the undulating ountry. And from a distance it is a sight goodly to ok upon. You see broad pleasant landscape; hill nd dale succeeding hill and dale, with gentle rise nd fall, until the lines of the hills merge and grow ndistinguishable in the distance. And straggling cross the middle of the landscape are the trenches, oking like a complicated meshwork of yellow bbons. At intervals a white strip, which is a road, asses into the maze, becomes lost, and then nerges on the other side, its course accentuated y the tall reinforced concrete telegraph poles which rm a prominent and not altogether attractive ature of this part of the country.

A characteristic of Picardy villages is that nearly very one of them lies within a wood, or is rrounded by a thick belt of trees. A glance at the ap will show, indeed, that many of the place- mes end with "au Bois."

It is for this reason, incidentally, that an advance ust be a slow and costly operation. The woods turally afford first-class cover for artillery and achine-guns, and therefore offer an obstacle much ore difficult to reduce than the strongest-built fort at modern engineering science can devise.

The villages that lie close up to the line are now tle more than fortified scrap-heaps. Even the oods which screen them are gradually disappear- g beneath the hurricane of shells which is poured to them unceasingly day and night.

A number of the villages actually lie on the firing- ne, the trenches being dug through and into them odd and bewildering confusion.

But it is not of these villages that the British rmy will cherish pleasant memories. It is of those at lie six, eight, ten, or more kilometres back, where there is no danger of being disturbed by whizz-bang or minenwerfer—where the only reminder of the war is the booming of the guns in the distance. Not that all these villages are by any means safe, for some are within easy reach of the German long-range guns. But these are now seldom used against such villages. The somewhat diffuse character of the target does not apparently appeal to the exact German mind.

The typical Picardy village has little to offer in the way of fine architecture.

Frequently it will consist merely of a few rambling lanes, lined with a straggling array of barns and sheds, a small church, and the inevitable estaminet. Occasionally it will include a number of fairly large houses, and perhaps an ancient chateau, shut off amid stately trees, through the branches of which you may catch a glimpse of gleaming white wall and high tower. It is to such a village as this that the soldier is brought back from the trenches to enjoy a few days of rest. Nearly always he will be billeted in a barn, on the outside of which, painted by the army sign-writer, is a board, revealing the inscription:—

BILLET No. 1.

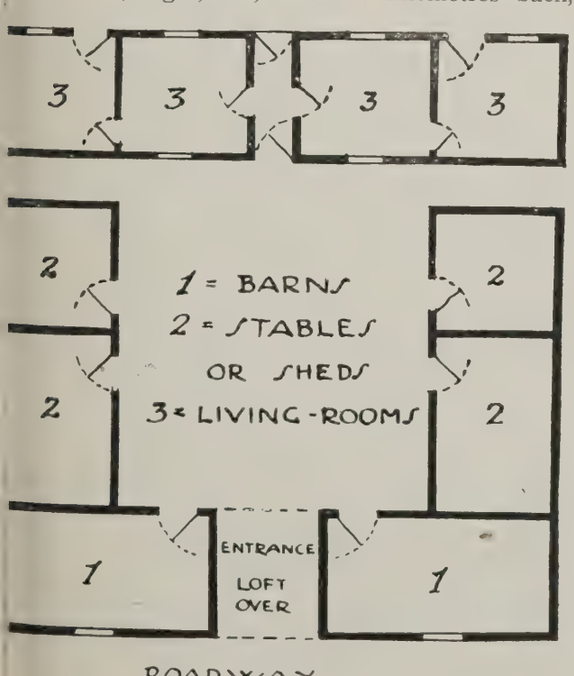
OFFICERS	2
MEN	30
HORSES	4
CELLAR	—

the wording varying according to the accommodation provided. Now, apart from æsthetic considerations, the typical Picardy barn is a thing of considerable interest. The plan (see sketch) seldom varies, and the construction is nearly always the same, that is to say, brick foundation, walls of skeleton timber framing filled in with a combination of mud and straw, the whole covered in with a red-tiled roof.

Usually the construction is exceedingly primitive. Timbers are rough and untrimmed, and put in place without any regard for exactness of position.

Rafters are laid on at irregular intervals, and the number on one side of the roof seldom corresponds with that on the other. Consequently the problem of tile-laying becomes somewhat complicated, and various ingenious little makeshifts are introduced. The whole building is generally in a somewhat dilapidated and shaky condition, and it only requires one high-explosive shell to make a complete ruin of it. But in spite of all its deficiencies the Picardy barn is a highly picturesque type of building, reminding the Englishman of the half-timber work of the Tudor period in his own native land.

The barns (for there are really two of them in most cases, one on each side of the entrance) always occupy a definite relationship to the various other buildings at hand. Thus, as shown in the accompanying sketch-plan, it will usually be found that the barns are built towards the road and joined up on each side by other farm buildings, the farm-house or cottage lying immediately to the rear; the whole scheme of buildings forming a rectangular courtyard, in which the farmer assembles his waggons and carries on with his business generally. The cottage or farmhouse itself, unlike the barns and sheds, is always a substantial structure of brick or stone—usually stone, plain and unadorned. Yet it makes a remarkably attractive picture.



HOSPITAL LAUNDRY EQUIPMENT.

[SPECIALLY CONTRIBUTED.]

IN a public institution of any considerable size, be it hospital, infirmary, poorhouse, asylum, or convalescent home, the power laundry is always a unit of great importance, and in these days of warfare, when many of our institutions are being used as military hospitals, the necessity for an up-to-date laundry equipment becomes more pressing, rendering imperative the installation of large machines capable of the maximum output. For this reason there has arisen an urgent demand for the products of laundry engineering specialists, of which there are about half-a-dozen firms of importance in this country. To those who have never had the opportunity of inspecting a public institution laundry, the extent of the machinery and its capabilities may occasion considerable surprise; but when it is considered that in many of the large hospitals in London and throughout the provinces the laundry is called upon to deal with something like 30,000 articles per week, the necessity for capacity and efficiency in the laundry installation is more readily understood. One of the most modern ironing and finishing machines, weighing about twelve tons, is capable of dealing with 3,000 pieces of laundry work per day of ten hours.

In almost all the large cities there are examples of modern institution steam laundry equipment, and for the purpose of this article a hospital of recent construction has been selected, i.e., the Royal Hospital for Sick Children, Glasgow.

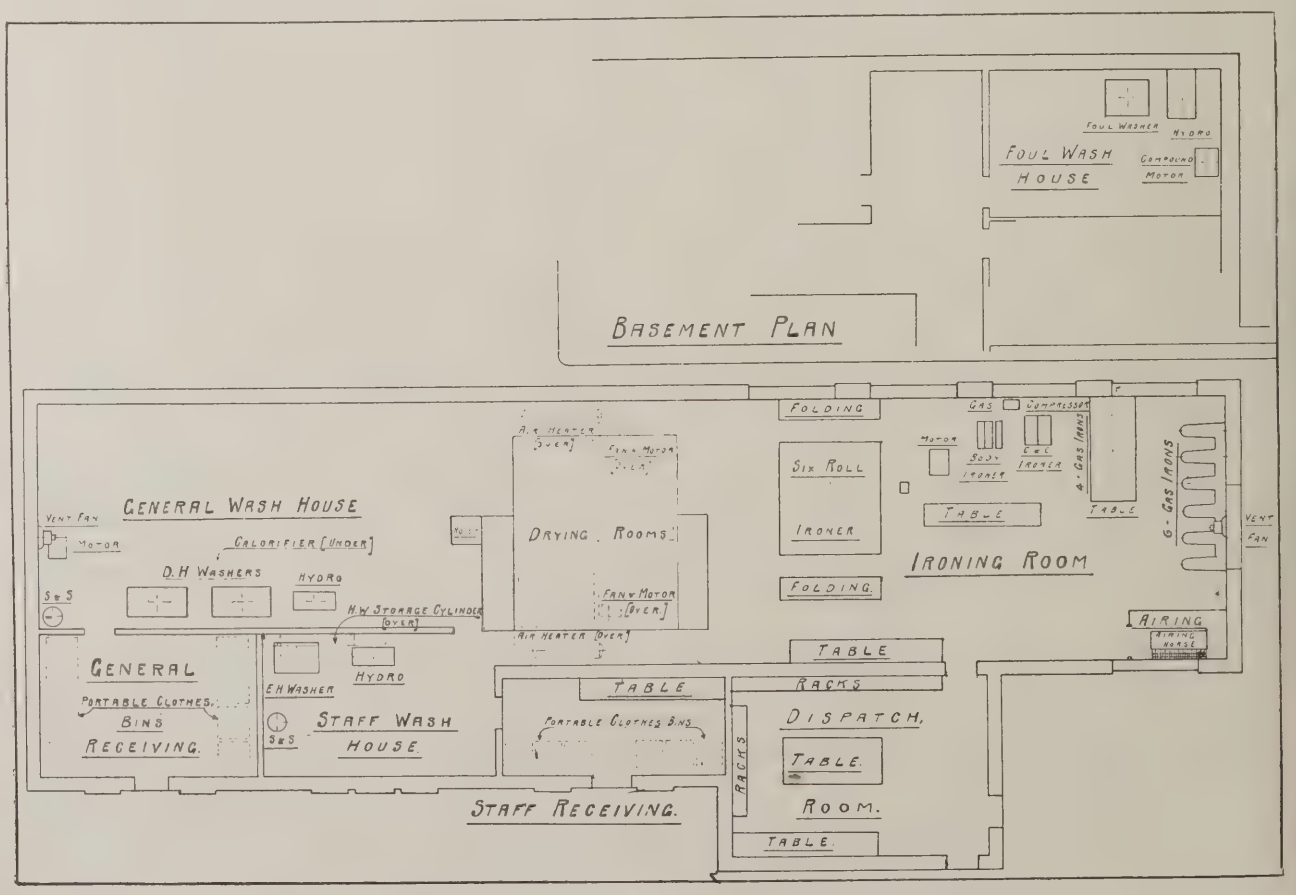
This institution, which has provision for 206 beds, and is reserved entirely for the treatment of infantile diseases, was opened by their Majesties the King and Queen in July, 1914. In this instance, as in all laundries pertaining to public institutions, the building is detached from the hospital blocks, but communicates with them by underground passages for the conveyance of the washing to and from the hospital wards.

The laundry block is built of brick, with concrete floors and slated roof, the inside walls being white tiled. The special wash-house dealing with foul or infected linen, and the chamber for disinfecting under steam pressure, are situated in the basement.

The laundry, a plan of which is here shown, is divided into five sections, i.e., patients' wash-house, staff wash-house, foul linen wash-house, patients' and staff drying chambers, and ironing and finishing department, the last-named being utilised for the final treatment of all the laundry work, including patients' and staff. Steam for laundry supply is obtained from a central power-house, where two Lancashire boilers are installed for heating the hospital buildings and also for kitchen supply. The motive power for the laundry machines is electricity, the plant being driven on the group system, i.e., one motor for each line of machines. Thus in the patients' and staff wash-houses there is one motor of 9-b.h.p. driving three large machines; in the foul linen wash-house, one motor of 5 b.h.p. driving two machines. In the drying chambers for patients and staff there are separate direct-driven electric fans, and in the ironing and finishing room there is one motor of 5-b.h.p. providing power for four machines. This group system, which is in accordance with the most modern practice, permits of any one section of the laundry being driven as a separate unit without the necessity of running the whole installation of line shafting for the benefit of any single department. Hot-water supply, so essential in any power laundry, is generated in a live steam calorifier operating in conjunction with a copper hot-water storage cylinder from which pipe-lines convey supplies to the machines and appliances requiring them.

As the construction and purpose of modern steam laundry machines may not be generally understood, a brief description of the three principal machines employed—i.e., the washing machine, hydro extractor, and ironing, drying, and finishing machine—may be desirable. Those three power machines really perform the principal functions, all other machines and appliances being more or less auxiliary to them.

The washing machine, which is built of metal throughout, consists of two cylinders, an inner one of perforated brass sheet fitted with hinged doors, revolving in a fixed outer casing of galvanised steel plate, also fitted with doors. The inner or containing cylinder in which the load of goods is washed is fitted with brass V-shaped beaters against which the articles are dashed during the revolution of the shell. The machine is driven by fast-and-loose pulleys, and an ingenious gear provides a reversing movement to the inner cylinder which makes two and a half revolutions in one direction, then reverses and makes the same number of revolutions in the opposite direction. The machine is provided with steam and hot and cold water connections with control



LAUNDRY AT ROYAL HOSPITAL FOR SICK CHILDREN, GLASGOW.

ıg valves, and is capable of washing in ıe load 300 pieces of laundry work, equal bulk to a man's shirt, the time occupied ;ing about forty minutes.

The hydro extractor, which is placed ljacent to the washing machine, comes :xt into action, and receives the load in dripping state. The purpose of this achine is to extract all the loose water, aving the articles in a condition similar that which they would acquire if passed rough an ordinary wringing machine. ı construction the hydro extractor is :tremely simple, consisting of a per- rated steel basket or cage of cylindrical rm, 30 in. in diameter, revolving at high ›eed on a spindle bearing within a fixed ıter casing of steel boiler-plate.

The goods to be dealt with are packed 'enly all round the basket, and the water extracted by centrifugal force, while the ıasket is running at a speed of 1,200 ›volutions per minute. The machine ıs a very large output of work, the ringing of a load occupying no more ıan ten minutes. As shown in the illus- ation, the machine is driven by separate otor.

The ironing and finishing machine at ıe Royal Hospital for Sick Children is of ıe multiple type, consisting of six large ›llers, driven at both ends by gear wheels, ›vered with felt and calico, revolving in ıst-iron polished steam-heated chests or eds, the linen being ironed and finished uring its passage between the revolving ›llers and the steam chests. As will be ›served from the illustration, the machine operated by four workers, two at the ed side, and two at the delivery end. ll articles are dried and finished in one assage through the machine, which is ell guarded by means of an automatic nger-guard at the first or intake roller nd hinged wire guards over the top of the rst and last two rollers. The rollers in ıis machine are 120 in. long by 10¾ in. iameter, and the output equals 150 heavy ospital bed-sheets per hour.

The complete plant in the laundry, the rrangement of which is shown on scale lan, is indicated on the following list, nd the average number of pieces passing ırough per week is 11,230.



GENERAL WASH-HOUSE.

List of Plant.

Patients' Wash-house: Two double back geared washing machines, each with brass inside shell 36 in. diameter by 72 in. long; one 40-gallon soap and soda dissolver; one 30-in. hydro extractor with direct-coupled motor.

Staff Wash-house: One single back geared washing machine, with brass inside shell 34 in. by 48 in.; one 20-gallon soap and soda dissolver; one 30-in. hydro extractor with direct-coupled motor.

Foul Wash-house: One special foul disinfecting and cleansing machine, with shell 30 in. diameter by 40 in. long; one 27-in. hydro extractor; one 7 ft. by 3 ft. disinfector.

Drying Apparatus: Drying chambers for patients, drying chamber for staff, drying chamber for blankets.

Heating Apparatus: Separate tubular air heater and motor-driven fan for patients' drying room; tubular air heater and motor-driven fan for staff drying room.

Ironing and Finishing Room: Six roller ironing, drying and finishing machine with two-speed gear and ribbon feed, rollers 120 in. long by 10¾ in. diameter; one 36 in. by 20 in. steam finishing machine; one 21-in. collar and cuff machine; one Keith-Blackman compressor with gas irons.

Hot Water and Generating Plant: One 600-gallon calorifier, one 8 in. by 30 in. copper hot-water tank.

Electric Motors: One 9-b.h.p. driving washing machines in patients' and staff wash-houses; one 5-b.h.p. driving machines in foul wash-houses; one 5-b.h.p. driving machinery in ironing room.

Services of shafting, pulleys, belts, steam, hot and cold water, condense pipes; wire guards for machinery; woodwork, including tables, bins, and racks.



IRONING AND FINISHING ROOM.

New Church at Beaconsfield.

The first part of the new church of St. Michael and All Angels, Beaconsfield, has been dedicated by the Bishop of Buckingham. The new church is situated immediately north of the joint Great Western and Great Central Railway Station. At present only three bays of the nave of the church and temporary chancel with adjoining vestries have been built, giving accommodation for about 260 adults, but the west end and aisles are practically complete. The main feature of the west front design is its massive effect, obtained without heaviness; above a deep western porch rises a fine five-light window, with rich tracery, flanked on either side with flat buttresses, and two single-light windows. Further buttresses define the limit of the nave walls and are supported on either side by the west walls of the north and south aisles. A fine stone figure representing St. Michael is placed in a niche immediately under the cross at the apex of the gable. The work has been carried out by Messrs. Franklin, builders, of Deddington, from the designs and under the supervision of Mr. Geo. H. Fellowes Prynne, F.R.I.B.A., Oxford diocesan architect, of Westminster.

MR. ERNEST NEWTON ON BUILDINGS AND BUSINESS.

Mr. Ernest Newton, A.R.A., has contributed to the "Daily Telegraph" the following important article:

In his recent speech on the Bill relating to the strengthening of Charing Cross Railway Bridge, Mr. John Burns made a remark which might serve as a text for a whole volume on town-planning and building regulations. He said: "Beauty is not only pleasing to the eye and consoling to the mind in a great city. It pays in solid cash."

Reunion of Commerce and Art.

It is noteworthy that while there was a sharp difference of opinion as to the merits of the particular Bill under discussion as a measure of immediate expediency, the principle outlined in these words seems to have met with general acceptance. There is, in fact, a growing appreciation of the connection between Commerce and Art, and an increasing disposition to regard them as allies rather than as antagonists. This change of attitude is one which will be heartily welcome both by large-minded business men and by sane devotees of art. With our modern regard for the dignity of business we are beginning to see that a great commercial community cannot afford to neglect the element of beauty and impressiveness in its surroundings. On the other hand, an art which is divorced from the main currents of the national life rapidly becomes decadent and sterile. It degenerates into an intellectual æstheticism devoid of any vital principle. And this is particularly true of such an art as architecture, which is directly concerned with the daily life of the people, and can flourish only when it gives harmonious expression to that life.

The interest of a business centre such as London in the beautification of its streets by the planning of thoroughfares, the laying out of open spaces, and the erection of stately and imposing buildings, is twofold. In the first place, there is the pride of citizenship. A busy city has a corporate life and consciousness of its own, and it is natural for that consciousness to express itself in splendid municipal buildings. It is to the busy trading towns of the Middle Ages, such as Bruges and Ghent, that we owe the glorious town halls and markets of Belgium and the Netherlands. It was in the great commercial centres of Flanders and Italy that mediæval and renaissance domestic architecture reached some of its highest developments. Pride in the city and its life led to the desire to provide it with an outward form which should be a worthy expression of its power and energy. The beauty of the city in its turn increased the attachment of the citizen to his birthplace and stimulated him to greater efforts. During a large part of the nineteenth century this sense of corporate life was too largely forgotten, but to-day we are coming back to wider views. The activities of our municipal bodies are too great for us to think of our cities as mere aggregations of individuals. The steps which are being taken to beautify them represent the growth of an attitude which is as important to commercial as to social development.

Sense of Corporate Life.

London, indeed, is a county rather than a town, and in addition to the corporate life of London as a whole, each separate borough or district, the City, Kensington, Bloomsbury, Whitechapel, Westminster, has its own special atmosphere and characteristics. It should be the object of the local authorities to foster, each in its own district, the sense of corporate life, and vie with the others for first place, as well designed, well built, and well lighted. The result will be seen not only in fine municipal buildings, but in the clearing away of slums and their replacement, as has been done with excellent effect in several districts of London by buildings which, although for a very modest class of tenant, have, by the excellence of their architecture, raised the character and value of the property.

Commercial Value of Good Architecture.

Moreover, the improvement of city architecture has its own direct commercial value. London has become to-day not merely a seat of government and a place of business, but a pleasure resort and a centre for travellers. It was estimated before the war that some 80,000 visitors came to London every day from America, from our Overseas Dominions, from all parts of the world. Of these people some have come purely for amusement—as sightseers. These, as a general rule, spend money freely. Their presence puts hundreds of thousands of pounds annually into the pockets of our traders. The pleased sightseer is an indefatigable shopper, and the kudos which the city acquires by its beauty and interest is reflected upon its trading establishments. Others come frankly as customers; but they come in large measure because the market is a pleasant one. They bring their families with them, and set themselves to have a good time, as well as to do a good stroke of business. The better the time they have, the more agreeable their stay is made, the more frequently they will return, and the more business we shall do with them.

We see, therefore, that money which is spent upon well-planned streets and fine buildings is well invested. Our business firms already recognise this. The magnificent and costly premises erected for our big banking and shipping corporations, the luxurious establishments of our great retail houses, are witnesses to the value of appearances, the impression produced on the public by a display of solidity and wealth, and the attractiveness of handsome surroundings.

Beauty Unadorned.

It is true that the same policy cannot be applied all round in the same way. In certain professions and grades undue display would be felt to be out of place, and quiet and restrained surroundings are obviously more appropriate. But architecture which avoids display need not be mean or ugly. Many buildings of the seventeenth and eighteenth century remain to show us that, with good proportions and good workmanship, dignity and beauty can be obtained without any trace of ostentation. Excellent examples may be found in the Temple, in Gray's Inn, Lincoln's Inn Fields, and the quiet backwaters of Westminster.

It is true, also, that zeal has not always been according to knowledge, and many of our costly commercial buildings do not give an adequate return in artistic effect. That is the more reason not only for encouraging greater attention to these matters, but for providing good examples in State and municipal buildings. Such an example might well be given by the buildings of a national commercial agency, such as was recently proposed in these columns. The show-rooms and London offices of great manufacturing firms are too often cramped, inconvenient, and so inconspicuous and scattered that they can only be found with difficulty. In addition to the offices of its central organisation, such an agency might well erect a building for each of our staple industries, which would contain not only the offices of an intelligence bureau dealing with all inquiries affecting the trade in question, but well-lighted, spacious, and convenient show-rooms and offices to be let, at reasonable rents, to members of the trade. Such buildings would become the rallying-point of all visitors interested in the trade in question. It would be an essential feature of the scheme that the buildings should be of such architectural excellence as would render them one of the sights of London, and many who came to stare would remain to buy. Moreover, the gathering of many agencies in the same line under a single roof would be a convenience, especially to commercial visitors whose time was limited, which would enormously facilitate business. The advantages of modern planning, good lighting, central heating, and service scarcely need to be emphasised.

Acres of Dingy Buildings.

It is quite true that there are cases in which the advantages of long associations and an atmosphere of historical continuity may make it worth while for an old-established firm to remain in premises which fail to fulfil all the modern requirements. And the shopkeeper in a picturesque old town, who has the good fortune to occupy an ancient half-timbered house, would be very ill-advised to replace it by a modern building. The picturesqueness, even the quaintness, of his building is in itself an attraction to customers and part of his stock-in-trade. But in all large towns there are acres of dingy buildings which have neither old-world beauty nor modern convenience and brightness to recommend them. To replace these by well-planned streets and squares of fine houses would be sound business as well as a social improvement. In such a policy we may look to London—the financial and commercial centre of the world—to lead the way. By rendering it a centre of social and artistic life we increase at the same time its commercial possibilities. London, as has been said, is the greatest business asset of Londoners, and it is an asset which all good citizens should be keen to develop.

TRADE AND CRAFT.

The Lighting of Drawing Offices.

For the lighting of drawing offices, the British Thomson-Houston Company usually advise the use of Mazda half-watt type lamps in their "Lumina" semi-indirect lighting fittings. A number of drawing offices have been equipped in accordance with this recommendation, and in every case, we are informed, great satisfaction has been expressed by the draughtsmen.

This system of lighting is used by a certain engineering and shipping firm in the Newcastle area whose reputation is known all over the world. The engineer was in conversation recently with one of the B.T.H. lighting experts, and the lighting of the drawing office was mentioned. The engineer stated that he had great difficulty in preventing the draughtsmen using the new lighting during the daytime—they declared it better than the natural daylight. This is strong testimony to the efficacy of the work of the B.T.H. Illuminating Engineering Department.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS.

At the Brighton meeting of the National Federation (reported in last week's issue, p. 57), a letter was read from Mr. van Siphen, secretary of the International Federation of Building and Public Works Contractors, who wrote thanking the National Federation for what it had done in assisting Belgian contractors. He added:

"The blood shed in common in the war brings us each day nearer to one another, and the heroic efforts of the Allied soldiers for the same just and noble cause affirms the expectation of a glorious peace in the near future which will bring with it the dawn of a fecund era marked by a community of interests and principles among the Allied nations in every sphere of their activity. We must look ahead now and make ready for this new economic situation, which is intended to prevent the German trade expansion from continuing to exercise its injurious influence in the world. That is why I propose to call together in Paris an inter-Allied conference to discuss there the important problems of the future, and I hope that the English Federation will affirm the importance of the industry it represents by sending to that Conference a few delegates, who will meet there their friends from France, Belgium, and Italy, so come to consider and seek in common the solution of these problems and bring their help and goodwill to the aid and support of the action taken by the Allied Governments."

The following items were also left over from the report published last week:

Income-Tax.

A discussion took place on two resolutions from the Northern Counties Federation with reference to the payment of income-tax, and, on the motion of Mr. S. Easten, seconded by Mr. Hill (London), the following resolution was carried: "That the National Federation should enter into arrangements with the Inland Revenue Department to pay income-tax on its surplus revenue, and the centres, county federations, and local associations be advised to enter into a similar arrangement to secure the allowance of members' subscriptions to their association as a proper deduction from their profits."

It was explained that the suggested arrangement would mean loss to no one, whilst many would benefit.

Payment of Fares.

The following resolution from the Northern Counties Federation was postponed till the next meeting: "That this Federation ask the National Federation to sanction the repayment to all representatives of the Federations upon the council of the National, or its committees, of their disbursements for attending meetings, to the extent of third-class railway fare and one guinea subsistence allowance when absence overnight is necessary."

Decimal System.

In proposing the resolution upon this subject (see last week's issue) Mr. Rice referred to the fact that the prosperity of builders was bound up with that of those who depended for their income on their trade with foreign countries, and it was this class of the community, as represented by the Chambers of Commerce, which had decided after long and careful consideration that a change was necessary in their system of coinage and weights and measures. The surveyors also had considered the matter, and from what he had gathered many of them believed such a change would greatly simplify the preparation of quantities. Those who did not understand the system would have the advantage of studying the exhaustive report which the secretary had made on the subject. As builders they were accustomed to overcome difficulties, and he did not think they would find any difficulty in the adaptation of the system to their particular industry which they could not overcome.

Mr. Hill said they would have many thousands of men coming back from France at the end of the war who had become familiarised with the decimal system of coinage.

After further discussion, the motion was unanimously adopted.

NEWS ITEMS.

Increase of Wages at Bristol.

At a meeting of the National Building Trades Conciliation Board, held in London on July 21, specially convened for the purpose of dealing with the question of the wages of operatives engaged in the building trade of Bristol, an advance of one halfpenny per hour was awarded to all sections concerned, this advance to be retrospective as from July 1, 1916.

Federal Parliament House for Canberra.

The architectural designs competition for the Federal Parliament House at Canberra has been resuscitated. Eight prizes ranging from £2,000 to £250 are offered. Designs must be submitted by the end of January next. The adjudicators are Mr. George Pool, Australia; Sir John Burnet, Great Britain; M. Victor Laloux, France; M. Eliel Saarinen, Russia; and Mr. Louis Sullivan, America.

Concrete Drinking Troughs.

Many estate agents and estate clerks of works employ their bricklayers and labourers during slack times in making concrete articles for the farmers on the estate. Drinking troughs for cattle, which were formerly made of wood, are now made with Pudloed cement on the Earl of Dudley's estate. The troughs are 10 ft. by 2 ft. by 18 in. deep, 2¼ in. thick at the bottom, diminishing to 1¾ in. at the top of the sides. These troughs are indestructible and we understand give great satisfaction to the farmers.

Roofing Felts.

Messrs. F. McNeill and Co., Ltd., Spencer House, 4, South Place, Finsbury Pavement, London, E.C., announce that they are now in a position to give immediate delivery from London stock of their well-known felts for underlining and external roofing. These felts have been on the market for more than eighty years, and are British made at the firm's works at Kirkintilloch, near Glasgow, and London.

The Order in Council as to Building.

The Press Association has been informed at the Ministry of Munitions that there seemed to be some doubt in the minds of building contractors and those interested in building throughout the country as to the new Order in Council regulating building. Work which was in progress before July 20 need not be stopped pending the granting of a licence. Any building commenced before that date should be continued until such time as a licence should be definitely refused. There is no desire to restrict building unless a national purpose can be served. The principal purpose of the Ministry is to limit the use of structural steel. A further purpose is to assist the Ministry of Munitions in obtaining such building labour as is urgently required upon munition factories.

Treharris Pithead Baths.

With reference to the article relating to the Treharris pithead baths in last week's issue of the Journal, we are informed that the whole of the white glazed bricks and tiles, sanitary fittings, and floor tiles, were supplied and fixed by the Leeds Fireclay Co., Ltd., 2 and 3, Norfolk Street, Strand, London, W.C., the division walls to cubicles, etc., being erected in their white glazed "Shepwood" patent partition bricks.

Engineering Standards Committee.

At a special meeting of the Main Committee (Sir John Wolfe Barry, K.C.B., chairman) held on July 27 last, Mr. Charles le Maistre, A.M.Inst.C.E., M.Inst.E.E., who has been in charge of the work of the electrical section since 1903, was appointed secretary to the committee in succession to the late Leslie S. Robertson, M.Inst.C.E., who was lost with Lord Kitchener in the disaster to H.M.S. "Hampshire."

OBITUARY.

Major Herbert Phillips Fletcher.

At Marylebone on Saturday last Mr. Drew held an inquest on the body of Major Herbert Phillips Fletcher, aged forty-four, Middlesex Hussars, attached to the Royal Flying Corps, of Marden, Kent. Sergeant James Davies, Royal Flying Corps, said that on August 1 Major Fletcher had been flying alone, and came down about 50 yards away from the spot where he had intended to alight, apparently because his propeller had stopped. The witness at once sent a mechanic to assist him, but the man failed to restart the propeller. Major Fletcher then tried to start it himself, and, losing his balance, fell sideways, and got mixed up with the propeller as it started. The machine proceeded a few yards and then stopped. Major Fletcher was found terribly injured under the tail plane, which was broken. After medical evidence had been given a verdict of "Accidental death" was returned.

Major Fletcher, who was a son of the late Professor Banister Fletcher, and began practice in 1893, was, before the war, director of the Associated City Companies' Trades Training School in Great Titchfield Street, and architect to the Worshipful Company of Carpenters. He was Godwin Bursar in 1904, and was a Fellow of the Sanitary Institute, an Associate of the Institution of Civil Engineers, a Fellow of the Royal Institute, and a barrister-at-law. In conjunction with his brothers, he had published several successful books on carpentry and joinery, dilapidations, quantities, valuations, and the London Building Acts.

Mr. D. Macbean.

Mr. David Macbean, an architect in the Glasgow Office of Public Works, who has died suddenly at Kingussie at the age of sixty-three, had entered the service of the Corporation of Glasgow thirty-nine years ago.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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I HUGO WILHELM RUDOLF KOCH of 44 Doughty Street St. Pancras in the County of London Editor and Publisher of Academy Architecture and Architectural Review a son of the late Alexander Wilhelm Koch Architect who was a natural born subject of the Republic of Switzerland and who on the 20th day of January 1891 became a naturalised British subject and who for upwards of 22 years carried on the business of Editor and Publisher of the said Academy Architecture and Architectural Review at 58. Theobald's Road Gray's Inn in the County of London HEREBY GIVE NOTICE that I have ASSUMED and intend henceforth on all occasions and at all times to SIGN USE and be called and known by the Christian or forenames of HUGH WILLIAM in lieu of and substitution for my Christian or forenames of Hugo Wilhelm Rudolf and by the surname of Martin-Kaye in lieu of and substitution for my present surname of Koch and that such intended change or assumption of names is formally declared and evidenced by a deed poll under my hand and seal dated this day an intended to be forthwith enrolled in the Central Offices of the Supreme Court of Judicature. In testimony whereof I hereby sign and subscribe myself by such my intended future Christian or forenames and surname.

Dated this third day of August 1916.

HUGH WILLIAM MARTIN-KAYE.

Witness: S Gissing Skelton 1 Lincoln's Inn Felds London Solicitor. 864

THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, August 16, 1916. Volume XLIV. No. 1128.



BIRD'S EYE VIEW OF ROME AT THE END OF THE SIXTEENTH CENTURY.

Showing old St. Peter's and adjacent streets.

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 16, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1128.

EDITORIAL.

AN almost unrecognised virtue of the R.I.B.A., of the Society of Architects, of the National Federation, and of several other organisations, is the part they play in consolidating the Empire. Their influence in this respect is not the less powerful for being quietly pervasive, and it may be traced, we think, in the splendid response which the Colonies have made to the call of the Motherland. In the Kalendar of the Cape Institute of Architects, which is allied with the R.I.B.A., and dutifully follows the example of the parent Institute by spelling Kalendar with a K—a letter that ought to be abolished from every civilised language if only because it is a prime favourite with the Huns—we notice that at least nine out of ten of the office-bearers and council are Fellows, Associates, or Licentiates of the Institute, and, having this nexus, are presumably so many missioners of British spirit and loyalty.

* * * *

We must confess to an occasional feeling of regret that, in outward seeming, the Old Country has sometimes shown itself less cordial than her Colonial sons in manifestations of the sense of unity. It is no doubt quite natural that our native insular reticence should be sometimes mistaken for an indifference which in reality cannot be justly attributed to us; and, so far as this journal is concerned, every opportunity has been seized of dissipating any possible feeling of apathy, and of responding heartily to all friendly advances. Always glad to hear from the colonies, and to note what architects and builders are doing there, we, in common with the entire profession, should be cold indeed if we had not been stirred to profoundest gratitude by the splendid loyalty of the Colonies, and by the unsurpassable valour of their fighting men. With their blood they have sealed the bond of union, and we gladly seize this occasion to pay them this small and very inadequate but heartfelt tribute of acknowledgment.

* * * *

In the address of the President of the Cape Institute—Mr. F. K. Kendall, F.R.I.B.A., who has held the office for three years, and who is succeeded by Mr. W. J. Delbridge, A.R.I.B.A.—satisfaction is expressed that the Institute's efforts to promote a town-planning scheme for the Peninsula are likely to bear fruit, as the Corporation of Cape Town were then endeavouring to secure the necessary power to carry out the Institute's suggestions. We share his gratification; and while venturing to congratulate him on the modesty and largeness of view that led him to suggest that the corporation should "employ the very best expert adviser from overseas to prepare the plans," would nevertheless hazard the opinion that open competition (within Empire limits) would be preferable. No doubt town-planning knowledge and experience must, in the nature of things, more greatly abound in this country than in the Colonies; nevertheless, we should all like to see South African architects get a fair chance of distinguishing themselves in this kind; and, as a matter of general principle, open competition is the better way, with regard both to the profession and to the object to be secured.

* * * *

Another point of interest in the retiring president's "brief swan-song," as he called it, was a reference to factory building. He had heard, he said, of proposals to erect factories and other such buildings in some of the most desirable dwelling areas, and he therefore thought that the declaration of a noxious industries area was a necessity of the situation. Town-planners are fully alive to the importance of this menace; and the danger in this country is that, in the exigencies of the moment, in the fury of factory-building that will presently arise, too little heed will be paid to decency and decorum. Factories we must have, and many of them will be noxious enough to devastate wide areas around them; but vigilance and firmness must be exercised with respect to those areas, otherwise commercial prosperity may be bought too dear. It is a matter that will require most careful handling, with the object of preventing any sort of injury to the country—commercial or hygienic, moral or æsthetic; and here we have a difficult and complex problem to which, no doubt, town-planners are earnestly addressing themselves. Towards its solution our Belgian friends are probably in a position to afford us valuable hints. Certainly, as the "Manchester Guardian" wisely commented in supporting the Salford town-planning scheme, of which a draft is now being prepared, we want no repetitions of the "large, indiscriminate area in which works, warehouses, shops, and crowded artisan dwellings are jumbled together haphazard." With that growing sense of civic pride which Mr. Ernest Newton has discerned, we are not likely to get them, and those that infest our cities like so many poisonous growths must be cleared away. Indeed, they will not be able to withstand the force of example.

* * * *

In the art of breaking the bruised reed and quenching the smoking flax the political partisan holds a bad eminence. On no account are the worthy aspirations of a rival to be credited or encouraged. Hence, when Mr. Andrew Taylor, of the London County Council, "dreamed aloud of a magnificent boulevard connecting all the parks o

London in one splendid ring, so that we might walk or ride all round the metropolis through verdant lanes, without ever coming into contact with ugly bricks and mortar," the leader of what is normally the Moderate Party on the Council listened with a comic air of anxiety." Mr. Taylor, speaking as chairman of the Improvements Committee, quoted with enthusiasm Mr. John Burns's counsel " to take the hilltop view " ; and the observation of the partisan is, " However, the ruling party at Spring Gardens has always managed hitherto to put difficulties in the way of local town-planning proposals, and this visionary outlook of one of its chairmen need not be taken as any indication that the leopard is likely suddenly to change its spots." Unhappily the lairs of the leopard are not found exclusively in Spring Gardens, and it is therefore the more difficult to obey the showman's injunction to " shoot him on the spot." This business of town-tidying is far too serious to be made the plaything of paltry partisans; and we offer our hearty congratulations to Mr. Taylor on his recognition of that fact.

* * * *

How many Elizabethan houses remain in London no one can say with any certitude, for it would seem that some may exist in hiding. Few persons would have known that such a house lurked behind the old houses in Cloth Fair that were demolished some two years ago. Yet there is now revealed a half-timbered house built by Philip Scudamore in 1595 over the gateway which was formerly the south-west portal of the monastic church of St. Bartholomew, West Smithfield, and was erected early in the thirteenth century (1220 to 1230). What is more, the timber in this old house had evidently been used before, one long piece to which ths had been fastened having apparently been the top rail in a wooden screen, probably in the monastic church. It is believed that the building which Scudamore pulled down to make room for his house was a flanking tower of the church, which, already one of the most interesting buildings in London, gains, by this discovery, a further title to that high character.

* * * *

Gateways, being by their nature obstructive, have been demolished wholesale where their original purpose of preserving " liberties " or marking boundaries has lost any virtue it may have had in the olden days. The gateway of St. John of Jerusalem, in Clerkenwell, we have still; and the gateway of Lincoln's Inn Fields has not lost its function; but the old gateway that, a few years ago, guarded the churchyard of St. Giles's, Cripplegate, has been removed; and Ludgate, Aldgate, Moorgate, and Aldersgate are but traditions, as unsubstantial as the archway over Parliament Street and the gatehouse which gave entrance to the Abbey and of Tothill Street, Westminster.

* * * *

Tothill Street gatehouse was demolished in 1777. It was used as a prison for State, ecclesiastical, and parliamentary offenders, as well as for debtors and felons. In order that the felons might not slip out of custody and enter the "liberties" of the sanctuary ("Broad Sanctuary" is now a good postal address), they were brought to the gatehouse through the delightfully named Thieving Lane. Inmates of the gatehouse had a means of solacing themselves with gin; " the keeper vociferating from the window to the publican opposite, 'Jackass! Jackass!' " as a signal to come and receive orders. Walter Raleigh was confined in this gatehouse immediately before his execution in Palace Yard. On the south side of the gatehouse Henry VII. founded an almshouse, with a hall and kitchen, for thirteen poor men.

* * * *

A remarkable amount of cleverness is being wasted on the discussion of architecture in " The New Age " ; and, apparently, the more clever the writer, the more hopelessly impossible are his proposals, and the more futile are his philippics against things as they are. Take for instance the contribution of Mr. H. B. Hyams. He echoes William Morris in holding that " art is the expression of joy of the worker in his work," and there is nothing new in the postulate that " if a building is to be a work of art it must be built by free and happy workers from the humblest labourer to the architect." But the writer seems to brush aside the awkward facts that human nature is so constituted that no one can be wholly happy, human society so organised that no one can be wholly free. And the moralist will tell us that these conditions are good for our souls' health. It is all a matter of balance and proportion. A man is the happier for a little crook in his lot. " The bitter past, more welcome is the sweet." Strength comes through struggle, and the happiest inspirations have arisen from perplexity, as sparks from flint. These also are platitudes, but they seem to have a firmer basis in experience than those put forward by Mr. Hyams, who seems to be clamouring for the Golden Age.

* * * *

When he comes down to practicality, he paints the reverse of the shield too black. It is largely but not wholly true to say that " The client about to build may choose his architect because he is a relation of his wife, or because he has become acquainted with him in political work or in business, or because he has met him in foreign travel, or perhaps the architect has a happy way in speech in setting forth his own qualifications which his more modest brother architects lack." That is correct as far as it goes, but it hardly amounts to anything more than a special application and amplification of the hoary proverb that "kissing goes by favour." To inveigh against it may serve the very useful purpose of mitigating its excesses, but will never eradicate it. But while work certainly comes in this way, it comes also as the reward of skill, or as the sequence to reputation, but on this accident the essayist is silent. Another statement that is largely but not wholly true is that " the quiet, modest architect with no social position but strong socialistic tendencies, however clever, is forced to obtain a partner to obtain work for him, or else to work in the office as an assistant to another man who may not be an architect except in name." In other words, " the weakest go to the wall," but, in this instance, not to out-Balbus Balbus. Frankly, we can hardly believe in the existence of the blighted genius. If the over-modest man has not sense enough to ally himself to a pushful partner—and we all know of cases in which this form of co-operation works splendidly—and if he is so weak as to give to another, for a paltry wage, the fruits of his skill, then we are driven to suppose that he is by no means the heaven-born genius his fond relatives think him, and that he is probably getting as much as he is worth. Extraordinary talent cannot be, as a rule, kept under in this sinister way.

* * * *

We will venture to say that there is no other profession in which high talent, not to say genius, has a better chance of recognition. It is recognised and encouraged and rewarded in the architectural schools; it is made patent by illustration in the architectural periodicals; and the brilliantly

successful student, no matter how shrinkingly modest or nervously diffident he may be, is a marked man—one may almost say a made man—almost as soon as he emerges from his state of pupilage. Architects of standing are as keen as theatrical managers to snap up talent, and, to do them justice, are generous in rewarding it.

HERE AND THERE.

HAVING been for the past fortnight in the Marches of Wales, spending quiet days far from the madding Zepps in the Cathedral City of Hereford, I ought now to write in a cathedralish way of the mediæval manner of building, of soaring vaults and beautiful traceries, of bishops placidly recumbent on their tombs, of ancient glass (and Hereford has some good specimens of fourteenth-century glass, especially one window in its Lady Chapel, a glorious relic of translucent craftsmanship, complete and untinkered with); but I prefer for the present to turn to steeple-jacking. Hereford has an All Saints Church, with a great octagonal broach spire surmounted by a gilded cock, 220 ft. high in the air. In 1870 this cock needed to be taken down and repaired, and Mr. Frith, of Coventry, agreed to do the work for £16. I am not versed in the art of steeple-jacking, and it may be that there was nothing unusual in Mr. Frith's method of procedure, but when a kindly librarian showed me a book of old newspaper cuttings relating to this church, and I found among them a detailed account of how the cock was taken down from his perch and set up again safe and resplendent in a new gilt coat, I became greatly interested, and thinking others would be interested also I made a note of the newspaper report of 1870. It runs as follows: "Mr. Frith, with a pupil, commenced operations as usual by flying a kite, of silk, about 4 ft. square, with paper tail, a tassel about 50 ft. long, and a double line of cord; and after a good deal of trouble in climbing from the bowling-green, by help of ladders, over houses, the kite was soon moored so as to bring the guide line over the capstone of the spire and against the spindle of the vane, but here some interruption was threatened, as the rope got into a crevice, and Steeple Jack had to make an ascent upon an adjacent building to liberate his lines. The anchor line having been duly brought over the vane spindle, the kite was gradually drawn down, and its tail fell in an apple tree in the Mayor's garden, a large rope attached to the guide-line having been at the same time drawn up, and both ends eventually brought into Bewell Street, where they were secured underneath the church walls. A third or 'counterpoise' rope was then raised with 10 st. of iron weights attached to it, as a balance or counterpoise to Steeple Jack when he should find it necessary to ascend. Attached to these ropes was a 'cradle,' or chair, a very simple apparatus, in which the steeple-climber seated himself, a disproportion in the balance formed by his body and the iron weights being produced by the use of his feet, with which he paddled or urged himself up or down this inclined plane just as he desired. It was found necessary to order out a large body of police to prevent persons from traversing those streets into which loose stones from the ribs of the steeple might—and, in fact, did—tumble when disturbed by the feet of the climber. He went up and stood upon the cap of the stonework and beside the vane, which is 220 ft. from the ground, in three minutes. Having descended for tools, he remounted the spire and proceeded (by gripping the spindle with his legs) to use both his hands in dislodging the tail of the bird, to which he attached a cord and swung it in the air amidst the cheers of the multitude. Finding that the implements used were not fitted to remove the ferrule on which the cock was placed he again descended for a hammer and cold chisel. Armed with these implements, he was again in about a minute or two up the ropes, cutting at the brass ferrule until he was able to lift the body of the bird off the spindle. Within an hour and two minutes of the time of his ascent he had brought the vane into the vestry of the church, where it was found to weigh 26 lb., was 4 ft. 6 in. from beak to end of tail, and bore upon the comb the following inscription: 'G. Colloe, fecit 1787.'" All of which was a very creditable performance. Blondin long ago accustomed us to the limits of giddiness in mid-air, and to-day we have innumerable amazing performances on biplanes and monoplanes, such as walking along the framework when the machine is thousands of feet up. So this steeple-jacking at Hereford may not be so exceptionally dizzy. Still, to stand on a little stone cap, on the tor of a spire, and to hang on to a spindle with your legs while you work away with both hands hammering and chiselling, with 220ft. of nothing below you, are deeds of daring only to be compared with those of the steel-erector on a New York skyscraper, who stands at the end of a fortieth-floor girder and philosophically remarks to his companion: "Say, that must be dangerous. I shouldn't care to be driving a car down there in Broadway."

* * * *

Mr. Paul Waterhouse is among those very few architects who can turn a sentence gracefully and give a light though none the less incisive touch to architectural comment and criticism. There is an excellent sample of his manner in the R.I.B.A. "Journal" for July 29, where he writes of the Dilettanti Society in general and of F. C. Penrose in particular, and it is from his note on the latter that I take the liberty of making the following extract: "In the year 1839 there strode into Cambridge a tall, long-limbed undergraduate, a youth of keen brain and great physical strength, to whom work was play, and play was desperately easy. His great limbs and strong sinews found a welcome in the Magdalene Eight (as well as in that of the University), and his spare energies in the intellectual and physical spheres sought opportunity in such trifles as the study of astronomy or a brisk walk to London. He was a descendant from the family of the martyred Cranmer, and his personality, oddly enough, was known to all good children of my generation under the gentle pseudonym of 'Mary,' for he was the origin of the child-questioner of that name in Mrs. Markham's catechetical 'History of England.' His mother, in fact, was 'Mrs. Markham,' and Mary was no other than Francis Cranmer Penrose, architect, archæologist, and astronomer, to whom we owe the elucidation of the Parthenon, the custody for many years of St. Paul's Cathedral, and one of the most splendid portraits that ever grew under the magic brush of Sargent. To all who ever knew Penrose that square of coloured canvas in our Common Room at Conduit Street is not merely a piece of priceless work of art, but a living memorial of one of the most kindly and modest men that ever concealed a European importance under a countenance of unassuming tenderness." Mr. Waterhouse's lightness of touch is ever present in his writings, and his love of the humanities does not desert him in the more solid business of building. He has lately built at Oxford Professor Perkin's new laboratory, which is described as being probably the finest chemistry laboratory in this country, and he has attached to the building this chronogram—*i.e.*, an inscription in which a certain date is expressed by numeral letters:

BALLIoLENSIS
FECI
HYDATŒCVS
O SI
MELIVS,

which means: "I, Waterhouse of Balliol, built it; would that I had built it better." The numeral letters add up to the date 1914.

UBIQUE.



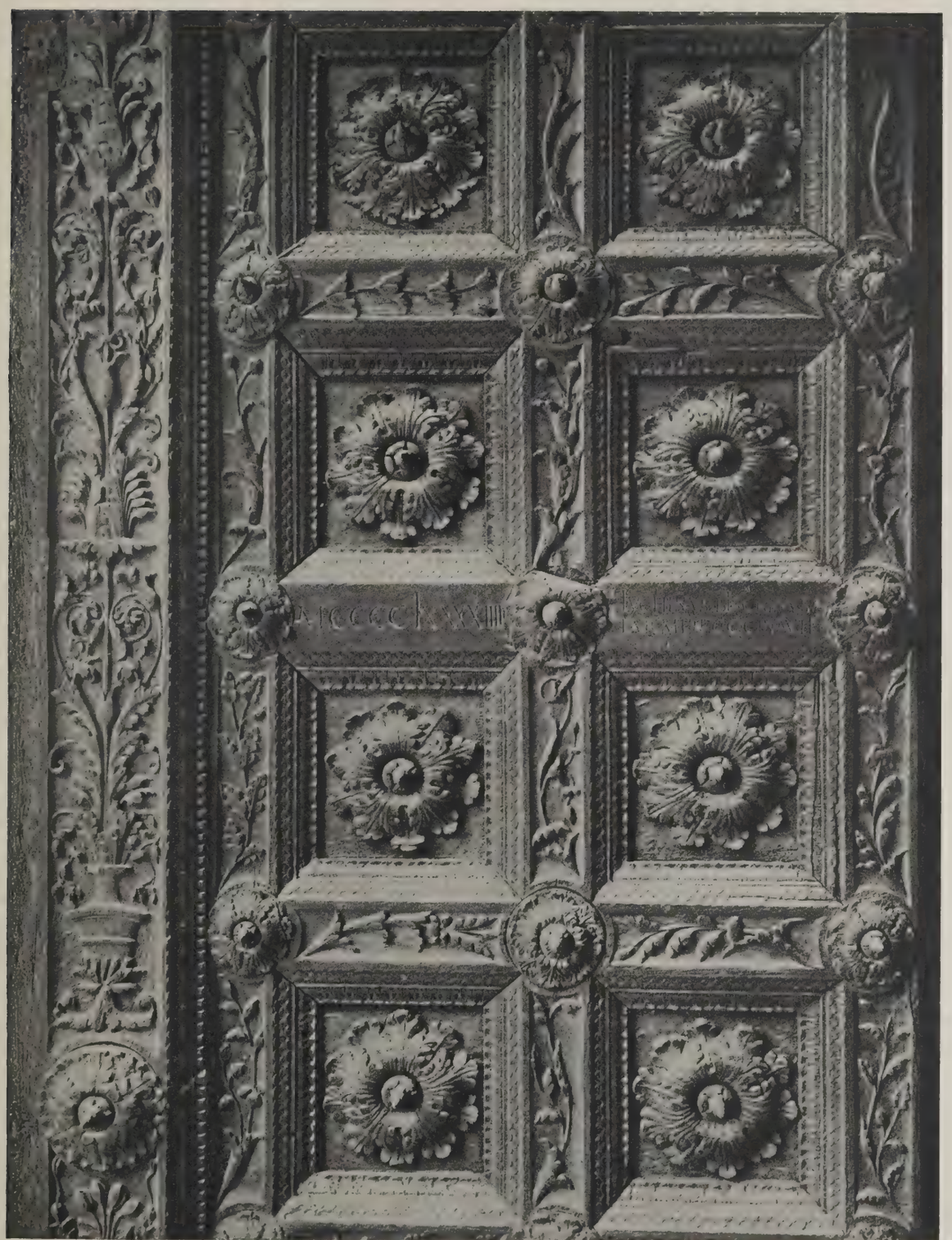
MODERN AMERICAN ARCHITECTURE (SERIES II.). IV.—THE CHILDREN'S MUNICIPAL COURT, NEW YORK CITY.
CROW, LEWIS, AND WICKENHOEFER, ARCHITECTS.

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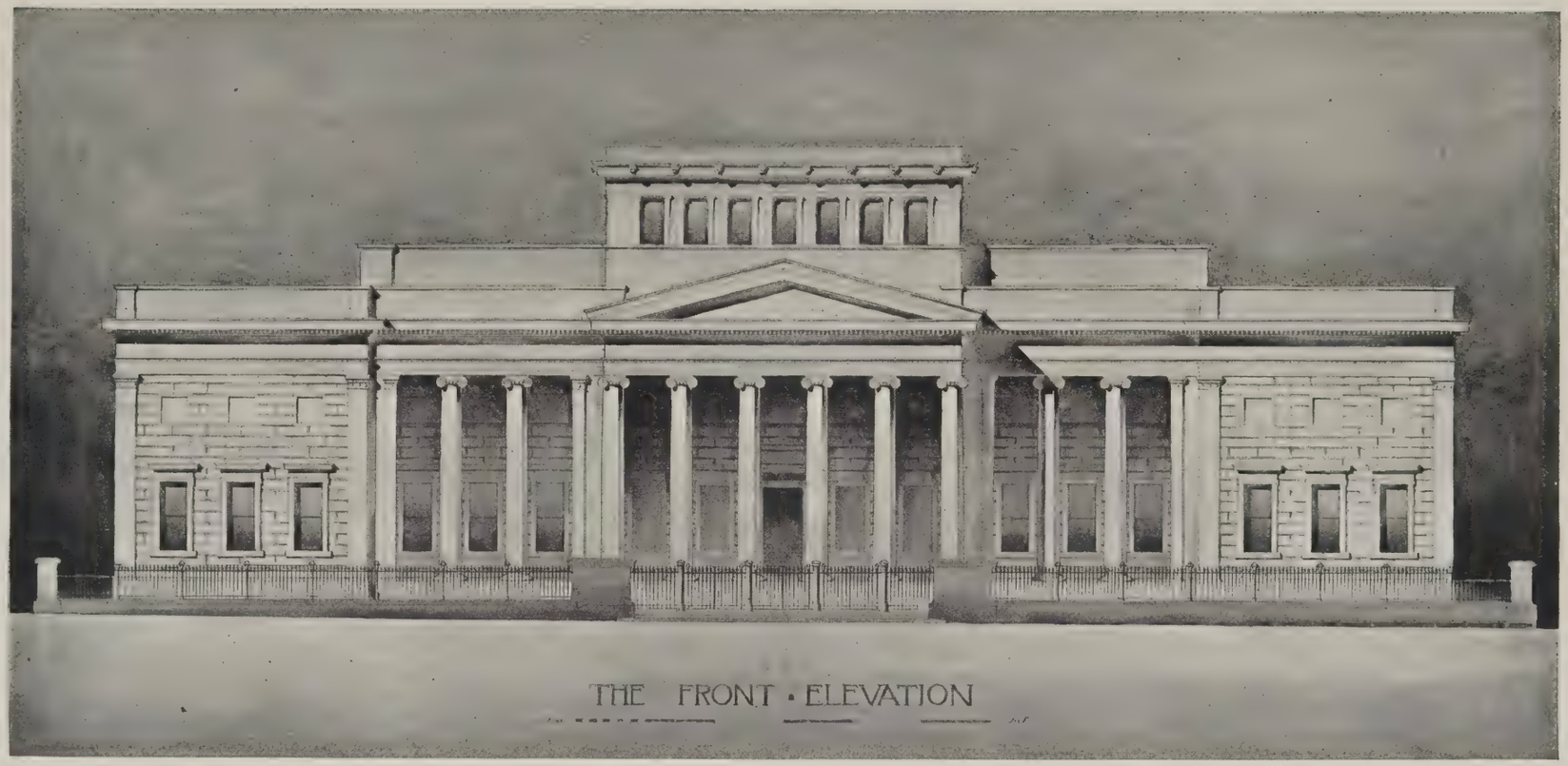
MONUMENTS. XXV.—MONUMENT TO QUEEN ANNE, QUEEN ANNE'S GATE, LONDON, S.W.

OF THE
UNIVERSITY OF ILLINOIS



DETAILS OF CRAFTSMANSHIP (SERIES II). XIV.—DETAIL OF MAIN ENTRANCE DOOR, PARMA CATHEDRAL. BY LUCHINO BIANCHINI (1494).

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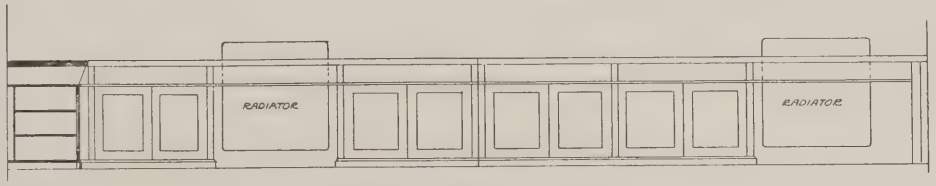
STUDENTS' DRAWINGS (SERIES II.). XXIX.—THE ART GALLERY, MANCHESTER. SIR CHARLES BARRY, ARCHITECT.

MEASURED AND DRAWN BY GORDON HEMM.

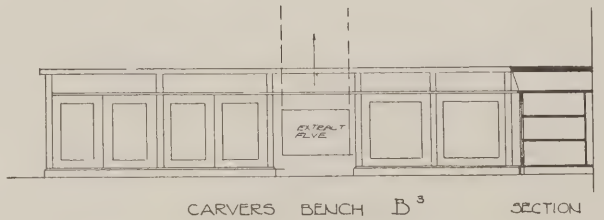
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CARPENTRY AND JOINERY WORKSHOP

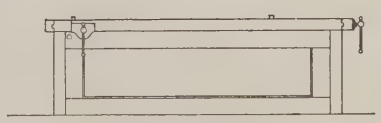
SCALE · HALF · INCH TO ONE FOOT ·



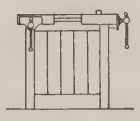
SECTION — CARVERS BENCHES B' & B²



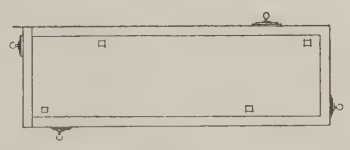
CARVERS BENCH B³ — SECTION



SIDE ELEVATION

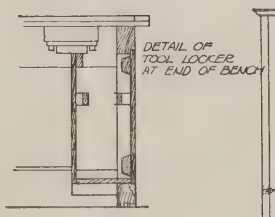


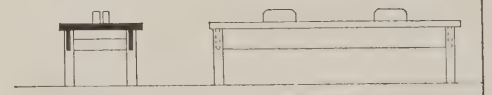
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PLAN

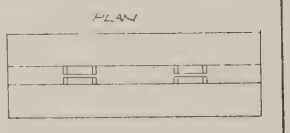
DVAL BENCHES A



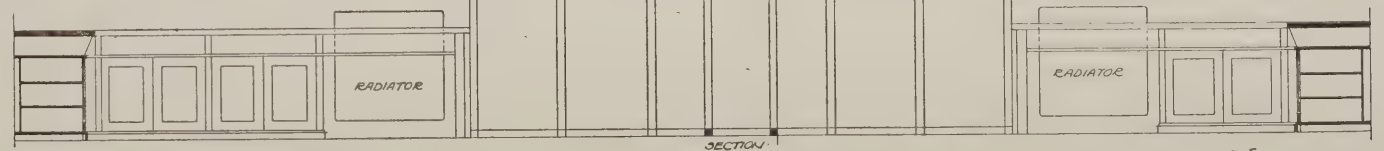


SECTION · ELEVATION ·

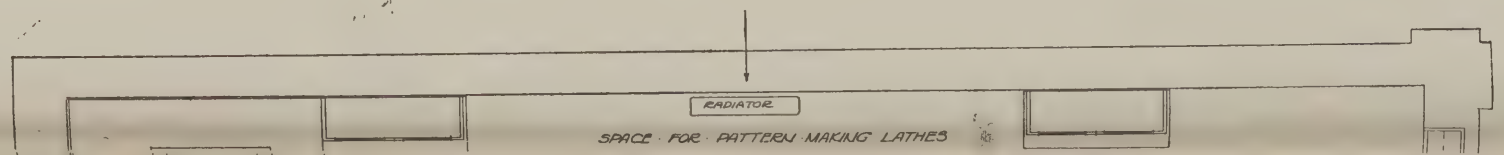
· SAWING BENCH D



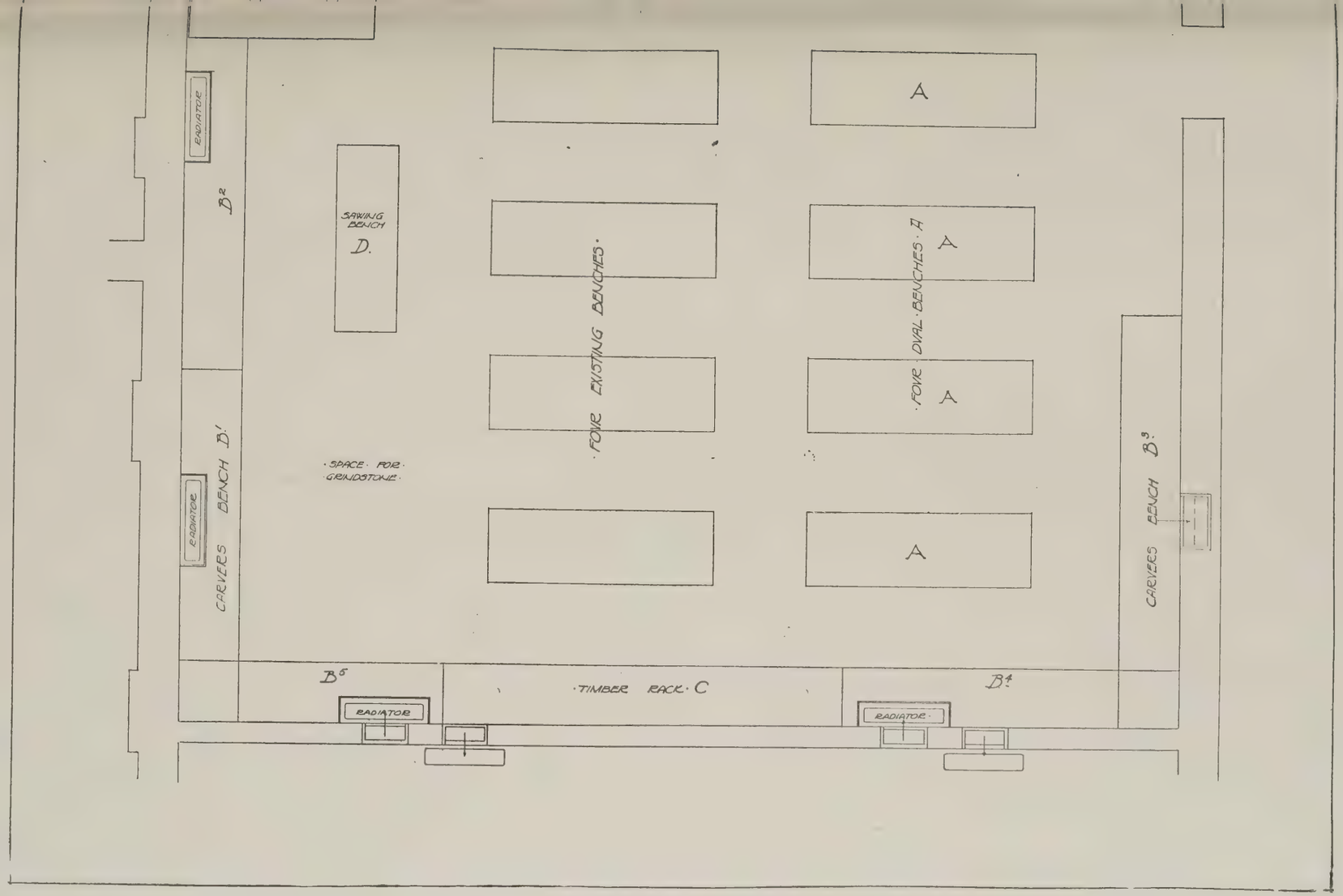
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Supplement to "The Architects' and Builders' Journal," Wednesday, August 16, 1916.



SCIENCE AND TECHNICAL BUILDINGS. IX.—CARPENTRY AND JOINERY WORKSHOP. CARDIFF TECHNICAL INSTITUTE.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.

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THE PLATES.

Children's Municipal Court, New York.

THE new building for the Children's Court of Manhattan is not only a fine example of modern Classic architecture as carried out in the United States, but also has an interest as representing a new movement in social welfare. Fourteen years ago a part of the Court of Special Sessions was set aside for the hearing of cases of children under sixteen years of age. Later, the inadequacy of the building became so evident that it seemed better economy to appropriate £30,000 for a new building rather than expend an estimated £12,000 on the repair of the old structure. The Committee on Criminal Courts of the Charity Organisation Society—an unofficial organisation of citizens—felt that a more appropriate situation should also be found, and the present site in East 22nd Street was finally decided upon. The corner-stone was laid in 1913, and the building completed in 1915. The architects, Messrs. Crow, Lewis, and Wickenhoefer, devoted to the study of this building the most painstaking care, with the result that it is actually even more satisfying to the eye than it appears in the photograph which we reproduce. The structure does not resemble in any way the ordinary type of court building. Instead, the smaller rooms have been treated as would be allowable in a rather stately residence. The plan was so arranged that the children could be brought to the trial of their cases with as little publicity as possible, and with the idea of indicating that the relations of the city and the judge to the child were those of super-parental authority rather than an inflexible and majestic Law. The main court-room is adjacent to a spacious waiting-room, where those concerned with the cases to be heard during the day can wait their turn. A smaller court-room also opens from this room, and yet the hearings in both rooms can be conducted without admitting curious or casual spectators, having no direct relation to the cases under discussion. The court has begun to run in two sessions, dealing with about 9,000 children each year.

Monument to Queen Anne.

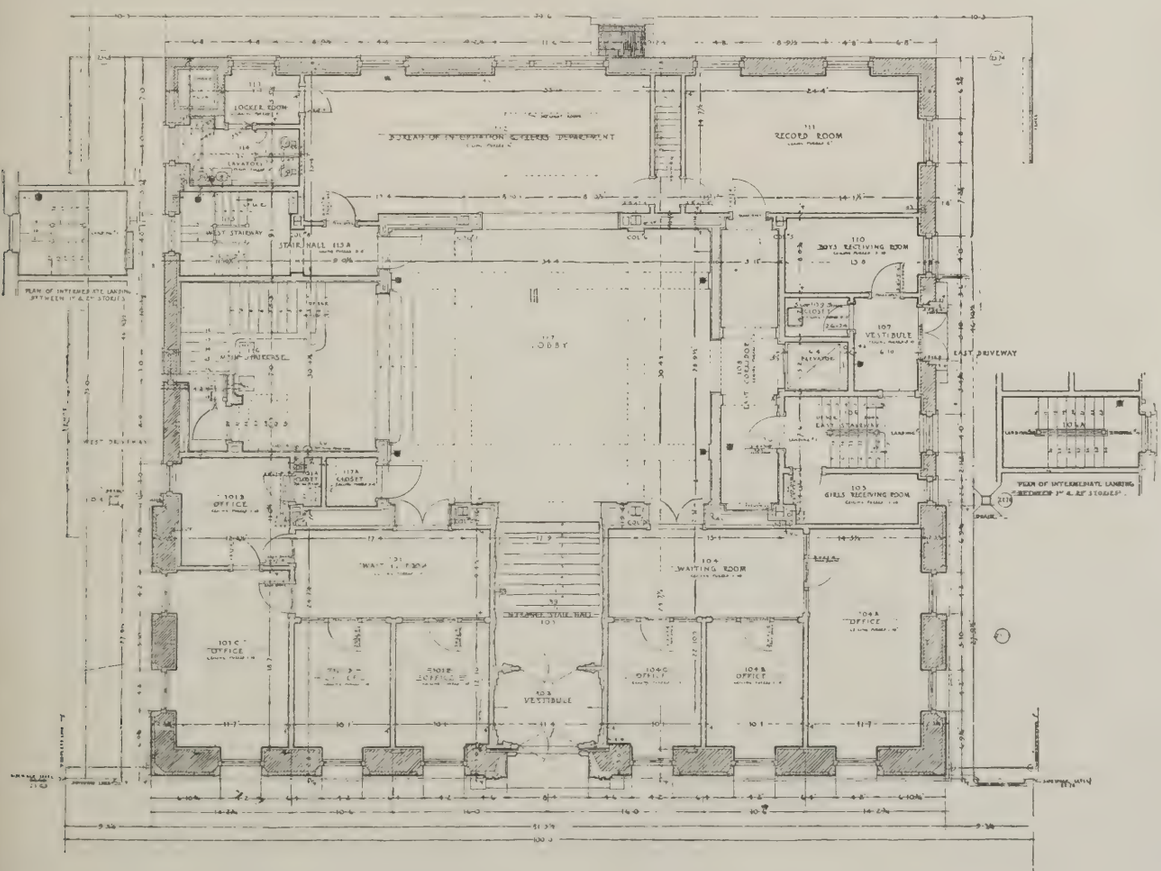
It has, we believe, never been determined who did this monument, but it is obviously a very good piece of work, the figure being admirably executed and set up on a well-proportioned base. The monument would appear to date from the first half of the eighteenth century. It was, presumably, not intended originally to occupy its present position against a blank wall space in Queen Anne's Gate, with two leering keystone heads cheek by jowl with the head of the Queen. It deserves a better setting.

Entrance Door, Parma Cathedral.

As an example of a rich bold doorway this is worthy of careful study. It will be noticed that the ornaments are not mechanically duplicated one exactly like another, but show that variety which is associated with hand work in all good periods.

The Art Gallery, Manchester.

This was carried out in 1824, and is therefore one of Sir Charles Barry's early works. It is none the less a very excellent one, full of architectural scholarship. As a writer said, shortly after the architect's death: "The building was of great importance in the results it produced. By contrast with the pseudo-Greek which was general in public buildings of the time, it presented what was at once Greek derivatively, or Græco-Roman in details and impress, and yet was work new or original—work of art and mind. The



CHILDREN'S MUNICIPAL COURT, NEW YORK: GROUND-FLOOR PLAN.

CROW, LEWIS AND WICKENHOEFER, ARCHITECTS.

portico was used as a feature of architecture and not spoiled; that feature and the remainder of the building were grouped together, whereas in Greek of that day a portico was often tacked on to a many-windowed façade. The staircase hall, grand in proportions within, and culminating in a central feature of the exterior, was the forerunner of later efforts of the kind by the same architect and others." The drawing which we reproduce is by Mr. Gordon Hemm, of the Liverpool School of Architecture.

Carpentry Workshop, Cardiff Technical Institute.

The drawing shows the arrangement of a carpentry workshop in one of the latest technical institutes in this country, and may be regarded as embodying the most recent practice. Messrs. Ivor Jones and Percy Thomas, of Cardiff, are the architects.

No. 8, Buckingham Street, Westminster.

The photograph reproduced on this page shows the complete façade of this house, of which a detail view of the lower storeys, together with two views of the new hall, were published in our issue for August 2. Professor C. H. Reilly was the architect for the remodelling.

Teaching Kitchen, King's College for Women, London, W.

The following description reached us too late to include with the plate of the teaching kitchen at the new King's College for Women, Campden Hill, London, W. (Messrs. H. Percy Adams and Charles Holden, architects), which appeared in our issue for July 19: "The kitchens, which are a dominating feature of the College, have been constructed with special reference to teaching cooking, laundry work, etc., on specialised lines. A scientific attitude of mind developed in the laboratories is allowed full scope in the treatment of household tasks. Stoves, utensils, etc., have all been chosen with a view to individual experimental work rather than to the usual dogmatic type of teaching. The equipment (at first sight rather luxurious) is all calculated to familiarise the student with different types of fuel, and to show how care in the construction of a kitchen may minimise work and promote efficiency—*e.g.*, the main tables are covered with strong tiles and easily kept clean; sinks and water taps are adjacent to them, though the 'washing up' sinks are in an adjoining scullery. Provision is made for hand-washing while at work. The stoves vary from different types of gas stoves, including the cheap 'duck oven,' to a modern electric stove, constructed on the principle of a 'Thermos.' Improvised 'hay boxes' share in popularity with two quite up-to-date Smith and Welstood ranges—a large one and a small. Meters are attached to gas and electric stoves, so that the cost of cooking may get full consideration. In every way provision is made for individuality and resourcefulness to be developed, and there is no opportunity for a student to go away dependent on any one particular type of equipment. They have full opportunity to become practical housewives, with a reason 'for the faith that is in them,' and to put their knowledge to practical issues by some experience also in the 'hostel' kitchen, where the appliances are those to be found in modern institutions, such as hospitals. Many students go out to vocations in which household duties have not any very evident place, but it is believed that they have grasped such an insight into many problems of homes and housekeeping that they are more valuable members of the community and have an interest in their scientific work that only comes from practical applications of it."



No. 8, BUCKINGHAM STREET, WESTMINSTER, AND ADJOINING HOUSES.

CORRESPONDENCE.

Architects and Surveyors for the Harvesting.
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Last summer I made an offer to the Board of Agriculture to use the machinery of the War Service Bureau for the purpose of raising a body of professional men to assist in harvesting work, owing to the shortage of agricultural labour. Although the offer was courteously received, it was not accepted. I have now, however, been approached with a request to proceed with the matter, and I should therefore be very glad to hear from anyone who is prepared to give at least four weeks of their time to harvesting work. Arrangements will be made to send applicants for a few days, in the fourth week in August, to a training and clearing station before being placed out on various farms. They will receive board and lodging in return for work while at the station, and when they are placed out on farms they will receive board and lodging and a small wage.

Every effort will be made as far as possible to keep together men who wish to work with each other.

I am sure there must be a very large number of members of the architectural and surveying professions who would like to assist in this work of very great national importance, and I should be very glad if they would kindly communicate with me immediately.

F. R. YERBURY, Secretary.

Architectural Association,
37, Great Smith Street, Westminster.
(Telephone: Victoria 820.)

"English Mural Monuments and Tombstones."
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Owing to absence from town I have only just seen the very appreciative notice of "English Mural Monuments and Tombstones" appearing in your issue for July 19. Your critic has however, given me credit for too much, as Mr

W. H. Godfrey is responsible for the text. This is clearly set forth in the title-page, copied as a foot-note to your notice.

Mr. Percy J. Smith designed both title-page and cover. He is not easy to get correspondence from just now, as he is on war service, but I am sure he would be able to give good reasons for the italics and majuscules, as he is most careful and thoughtful in all his work.

With many thanks for the notice.

HERBERT BATSFORD.

A Rural Reformation.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—For the past two or three months there has been in existence an informal round table conference of men and women prominently concerned with the question of rural reform. They have considered the reports of the various committees and the Small Holdings Colonies Bill before Parliament; they have had interviews with the departments concerned and have been thanked for the help they have been able to give.

Although an informal body, whose members act here in an individual capacity only, the conference is attended by members of the following societies: The Central Chamber of Agriculture, the Agricultural Organisation Society, the Farmers' Club, the Rural Housing Association, the National Land and Home League, the Housing Organisation Society, the National Housing and Town Planning Council the Co-partnership Tenants' Housing Council, the Garden Cities and Town Planning Association.

In addition to these were the members of the Houses of Parliament who have taken most interest in the Bill, together with several of the signatories of the reports.

The following resolution has been adopted by the conference:—

That this conference, while recognising the importance of rapidly developing facilities for Small Holdings, records its conviction:—

(1) That for the great majority of ex-Service men desiring a life in the home-country as workers on the land employment at wages whether on farms or in schemes of reclamation or afforestation affords the only practicable opportunity, at any rate in the first instance;

(2) That urban ex-Service men will not be willing to accept such employment unless wages and houses are greatly better than they were on the average before the war; and

(3) That both in recognition of the services of our sailors and soldiers and on grounds of national expediency the need of a Government policy and legislation to effect such improvement in wages and housing is immediate and urgent.

EWART G. CULPIN,
Secretary.

THE A.A. AIR RAID SECTION.

THE illustration below shows the Air Raid Section of the Architectural Association, Red Cross Detachment. Nightly a small body of men are on duty, fully equipped with first-aid appliances, ready to be called up at any moment in case of a raid. The headquarters are connected by a private telephone with the police, and the excitement is great when a message comes through to "stand by" as Zeppelins are near. Fortunately, the services of the Air Raid men have not been needed, but it is certain that if a raid ever takes place over London again they will prove themselves perfectly efficient. Some of the members are now attached to the London Ambulance Column, and it is their privilege to help in receiving and transporting the wounded from the stations as they arrive from the Front. This is very strenuous work indeed, sometimes meaning fourteen hours or more duty without a break. Probably, as the need becomes greater, more men will be drafted to the Ambulance Column.



THE ARCHITECTURAL ASSOCIATION "AIR RAID" SECTION.

REBUILDING DUBLIN: TEXT OF THE BILL.

The following is the text of the Dublin Reconstruction (Emergency Provisions) Bill:

The Bill provides:—(1) Where the Right Hon. the Lord Mayor, Aldermen, and Burgesses of the City of Dublin (in this Act referred to as the Corporation) require to purchase land under the Public Health (Ireland) Acts, 1878 to 1907, for the purpose of widening, opening, enlarging, or otherwise improving streets, or making new streets in the City of Dublin, in connection with the reconstruction of areas, streets, houses, or buildings destroyed or damaged in the course of the recent disturbances, they may be authorised to purchase the land compulsorily by means of an order submitted to the Local Government Board, and confirmed by that Board in accordance with the schedule of this Act.

The procedure under this section for the compulsory purchase of land shall be substituted for the procedure for the compulsory purchase of land under Section 203 of the Public Health (Ireland) Act, 1878, as amended by any subsequent enactment.

(2) Section 41 of the Public Health (Ireland) Act, 1878, as amended by any subsequent enactment, shall be extended so as to enable the Corporation to make by-laws with respect to the structure, materials, design, alignment, and general symmetry of the new buildings.

For the purpose of securing amenity and convenience in the reconstruction of areas, streets, houses, or buildings destroyed or damaged as aforesaid, and as respects any by-laws proposed to be made under that section as so extended, Section 221 of the Act (which relates to confirmation of by-laws) shall apply, with the substitution of "eight days" for "one month."

(3) (a) Subject to the provisions of this section, the Corporation may advance money on the security of the ownership of the site of any house or building which has been damaged or destroyed in the course of the recent disturbances for the purpose of enabling the house or building to be rebuilt or restored in such manner as will comply with the requirements of any by-laws of the Corporation under the Public Health (Ireland) Acts, 1878 to 1907, as extended by this Act.

(b) The advance shall not exceed the difference between the amount which the Local Government Board certify to be the total cost of rebuilding or restoring the house or building in such manner as aforesaid and the amount of the compensation granted out of the public moneys in respect of the destruction or damage of, or to, the house or building; and no advance shall be made unless such compensation has been granted, and unless the Local Government Board certify that the advance is necessary for the purpose aforesaid.

(c) The advance shall be repayable within such period, with interest at such rate and by such instalments or otherwise as may be agreed upon subject to the sanction of the Local Government Board, but the term of repayment shall not exceed thirty years from the date of the advance, and the rate of interest shall not be more than ten shillings above the rate at which the Corporation can at the date of the advance borrow money for the purpose from the Commissioners of Public Works in Ireland, provided that in the case of an advance in several sums successively the foregoing provisions as to the term of repayment, and as to the rate of interest, shall have effect as respects each sum advanced if it were a separate advance.

(d) The repayment of the advance and interest as aforesaid shall be secured by a mortgage of the site of the house or building in such form as may be approved by the Local Government Board. The mortgage may contain provisions for authorising the advance to be made in several sums successively as the works of rebuilding or restoration proceed and for ensuring that the advance will be applied in defraying the expenses of those works and such other provisions as the Board deem necessary, and no money shall be advanced unless and until the Board certify that they are satisfied that the value of the estate or interest assured by the mortgage is sufficient security for the repayment of the advance, and that the title to the estate or interest so assured is one which an ordinary mortgagee would be willing to accept.

(e) The Corporation may exercise all the powers and remedies for recovery of the principal money and interest which are expressed in the mortgage or implied by law.

In this section the expression, "ownership," in relation to the site of a house or building, means such interest, or combination of interests, as constitutes an estate in fee-simple or fee-farm in possession, or a leasehold interest in possession of at least sixty years unexpired at the date of the mortgage.

(4) (a) At any time after the expiration of two years from the passing of this Act, if it appears to the Local Government Board on the application of the Corporation that the rebuilding or restoration of a house or building destroyed or damaged in the course of the recent disturbances has not been commenced, or although commenced, has been discontinued, the Board may, unless they are satisfied that the rebuilding or restoration will be completed within a reasonable time, make an order authorising the Corporation to acquire the site thereof.

(b) Application under this section shall be made in such manner and after publication and service of such notices as may be prescribed, and before making an order the Board shall consider any objections which may be made thereto by any person interested in the site.

(c) When an order is made under this section, the Corporation shall have the power to acquire the site specified in that Order under the Public Health (Ireland) Acts, 1878 to 1907, as amended by this Act, in like manner as if it were land required for the purpose of improving a street, and may sell, let, or otherwise dispose of the same when acquired.

(5) (a) The expenses of the Corporation in the execution of this Act shall be defrayed out of the rate or funds applicable to the purposes of the Public Health (Ireland) Acts, 1878 to 1907, and the Corporation may borrow for any of the purposes of this Act in like manner as they may borrow for the purposes of those Acts, but money so borrowed shall not be reckoned as part of the debt of the Corporation within the meaning of the limitation on borrowing imposed by Subsection 2 of Section 28 of the Public Health (Ireland) Act, 1878.

(b) The Commissioners of Public Works in Ireland may lend money to the Corporation for any of the purposes of this Act in like manner as they may lend money for the purposes of the Public Health (Ireland) Act, 1878 to 1907.

(c) The validity of the proceedings of the Corporation in the execution of this Act shall not be questioned on the ground solely that the requirements of any standing order of the Corporation have not been complied with.

(6) In this, unless the context otherwise requires, the expression "Local Government Board" means the Local Government Board for Ireland; the expression "prescribed" means prescribed by the Local Government Board; and the expression "site" includes buildings and other structures on, in, or under the surface.

(7) This Act may be cited as the Dublin Reconstruction (Emergency Powers) Act, 1916.

A schedule to the Bill contains provisions as to compulsory acquisition of land by the Corporation. If objection is taken by a person interested in the land to its acquisition by the Corporation, the Local Government Board shall direct a local inquiry to be held as to the propriety of confirming the acquisition order.

(a) The arbitrator appointed for the purpose of settling compensation shall in addition to his powers under the Acts incorporated in the Order have power (a) to state his award, or any part thereof, in the form of a special case for the opinion of the High Court on a question of law under Section 8 of the Common Law Procedure Amendment Act (Ireland), 1856, and on the application of the Corporation: (b) to order works to be executed by the Corporation for the accommodation of adjoining lands or buildings, either instead of or in addition to, the payment of compensation; in determining the amount of compensation payable to any person interested in the land.

OBITUARY.

Lieut. J. E. K. Bell.

Lieut. J. E. K. Bell, eldest son of Mr R. E. Bell, manager of The British Dolo ment Co., Ltd., was severely wounded i the second line of German trenches o July 10, and was brought to the Empir Hospital, Vincent Square, Westminster, o July 18, where he died on August 5. H was laid to rest at Ladywell Cemetery Lewisham, on August 9. He was educate



LIEUT. J. E. K. BELL.

at St. Dunstan's College, Catford, where he took an active part in all sports; and afterwards he was for some years a member of the first Rugby team (playing three-quarter back) of the St. Dunstan's College Old Boys. In 1913 he joined the firm of G. R. Speaker and Co., and on the outbreak of the war he joined the Royal West Kent Regiment, afterwards known as the 20th London. After courses of training at Blackheath and Hatfield, he received his commission in the 8th Battalion of the Border Regiment in November, 1914. Sent to Doncaster for training, he joined his regiment at Codford in January, 1915, serving with it on Salisbury Plain and at Aldershot and Lewes. Sent to France in October, 1915, he took part in trench warfare up to May of the present year, when he was granted a few days' leave. Returning to the front on May 13, he took part in trench warfare as a bombing officer until the end of June, commanding a trench mortar battery.

LEGAL.

Builder and His Contract: Important Judgment.

Webb v. Flint.

August 1. Official Referee's Court. Before Mr. Muir Mackenzie.

Reserved judgment was delivered in this case, which raised the question of the application of the Courts Emergency Powers Act to speculative building contracts. The action was brought by Mr. Francis J. Webb, a builder, of Purley, Surrey, against Mr. W. H. Flint, auctioneer and estate agent, of Serle Street, Lincoln's Inn, for damages for breach of contract for re-entering into possession of certain buildings and land. The defendant set up a counter-claim.

It appeared that the defendant was the owner of an estate at Walton-on-the-Hill, Surrey, and he entered into a contract with the plaintiff under which it was arranged that the plaintiff should erect a house on a plot of the land, and complete it by a certain date, when a ninety-nine years' lease would be granted to him. It was alleged that the plaintiff failed to complete to date and plaintiff said his failure was consequent upon the outbreak of the war, which rendered it difficult for him to obtain materials. The defendant said, acting upon his contract, he re-entered into possession of the land and the building upon it. The plaintiff thereupon sued him for breach of contract and pleaded the Courts Emergency Powers Act as a bar to any such steps being taken by a ground landlord.

The Official Referee, in the course of his judgment, said it was clear that unless the plaintiff could establish special grounds for exemption from his contract, the defendant had a right to re-enter, and he had failed to show any such grounds. He found as a fact that the circumstances which supervened after the outbreak of the war were of importance and that they rendered the plaintiff's position more difficult and expensive, yet the plaintiff was not relieved of his obligation to complete the building within the specified time. He also found that the plaintiff did not proceed with the work with proper diligence, and that the defendant did not commit any breach of the contract. The plaintiff was not, therefore, entitled to maintain the action as founded. His opinion was that the Courts Emergency Powers Act did not apply in such a case, and the defendant had the right to resume the occupation of his own land. There would, therefore, the judgment for the defendant on the claim and also on the counter-claim for fifteen guineas, with costs of the claim and counter-claim.

NEWS ITEMS.

Somme Villas.

To commemorate the Royal West Kents, new houses being completed at College Road, Bromley, have been named Somme Villas.

Hove Pier Scheme.

The Hove Council Works Committee have approved plans for a pier which have been submitted to them by the company promoting the scheme. The approval is subject to further details of the structure being submitted.

Convalescent Home, Barrow-in-Furness.

Mr. Charles Duncan, M.P. for Barrow-in-Furness, has formally opened the new Convalescent Home of the Workmen's Club Union at Grange-over-Sands, Lancashire. The building, which cost £23,000, has accommodation for sixty-six residents.

Willesden Paper and Canvas Works.

Although as a result of the recent fire this company's works were totally destroyed, the directors have every reasonable expectation of resuming operations by November 1. The rebuilding of the company's factory has already commenced.

New Reservoir for Sydney.

The Sydney, New South Wales, Public Works Committee has approved of the proposal to construct a reservoir at Cordeaux to augment the Sydney water supply. The estimated cost of the work is £490,000, and it is not anticipated that it will be finished until 1920.

The Rebuilding of Belgium.

It is stated that many of the buildings put up for war purposes of one kind and another in this country will, when the appropriate time comes, be taken down and re-erected in Belgium and elsewhere to accommodate those engaged in restoring devastated districts.

New Works for Ormskirk.

At a meeting of the Ormskirk Urban District Council, plans of engineering works in Burscough Street for the United Brass Founders and Engineers, Ltd., of Manchester and Halifax, were submitted and approved. The works are of an extensive character, and will give employment to a large number of hands.

Salford's Town-planning Scheme.

A Salford town-planning scheme which relates to plots of land covering in the aggregate 2,084 acres has been sanctioned by the Local Government Board. Opposition to the scheme was forthcoming from several quarters, and the acreage was reduced by the Board from 2,290 to its present amount. Amongst the plots excluded are the Crescent land, belonging to the Booth Charity; the whole of Leaf Square, and the vacant land formerly used by the Broughton Rangers Football Club.

School for Rosyth.

The question of providing for the educational requirements of Rosyth, which has engaged the attention of Dunfermline School Board for more than a couple of years, has at last reached a possibility of settlement. Plans had been prepared for the erection of a permanent building costing close upon £20,000. Objection was taken by the Admiralty to any large expenditure upon permanent buildings meanwhile, and they offered to advance a sum of money free of interest for the erection of further buildings of a temporary character. Now, however, the Admiralty have given their imprimatur to the provision of permanent buildings at least on a modified scale, subject, of course, to a loan for the capital being obtained from the Treasury. Should a loan be obtained on favourable terms, the Board will proceed with the school at once.

Shrewsbury Town-planning Scheme.

The Shrewsbury Corporation has given authority to the Improvement Committee to apply to the Local Government Board for permission to proceed with a town-planning scheme. The committee submitted details of an arrangement which had been arrived at for laying out Lord Barnard's Raby estate adjoining Belle Vue Gardens and Longden Road on town-planning lines, and these were approved. Lord Barnard gives up 3,500 yards for widening Longden Road, and the cost for widening is estimated at £2,600.

National Club's New Home.

The National Club intends to remove from Whitehall Gardens to premises in Queen Anne's Gate overlooking St. James's Park. The club's new home, which is now in the hands of the builders, will be ready for occupation before Christmas. The premises adjoin the house now occupied by Mr. St. Loe Strachey, of the "Spectator," which was built for Mr. Charles Towneley, the owner of the celebrated Italian marbles now in the British Museum. The marbles were formerly housed in Queen Anne's Gate. The premises in Whitehall Gardens have been acquired by the Government.

The Mall Approach.

It was reported to the Westminster City Council at a recent meeting that the London County Council had been asked by the builders to give consent to the erection of a ground floor building over the yard of Drummond's Bank, facing the Mall Approach and Spring Gardens. The Improvements Committee of Westminster considered that the building, except as a temporary affair, would be objectionable, as it would interfere with the proposed further improvement of the Mall Approach. A member said that materials were already on the ground, and the work had evidently started. It was decided to inform the County Council that the City Council disapproved of the proposed building.

Change of Name.

The editor and publisher of "Academy Architecture," Mr. Hugo W. Koch, has changed his name to Hugh William Martin-Kaye. He is the second son of the late Alexander Koch, architect, who became a naturalised British subject in 1891, having been born in Zurich in 1848. Mr. Martin-Kaye wishes to express a sense of regret he has felt in giving up an honoured and much respected name. The family can trace its origin to 1307 A.D. in the Zurich town records. As this fact cannot be always generally known, and as there is every excuse for the name being associated with a German origin, and as, further, Mr. Martin-Kaye has been entirely educated in England, it is natural he resents going through life with a stigma he does not deserve. He has therefore made the change for this reason and for the sake of his children.

CONCRETE AND STEEL SECTION

(MONTHLY.)

THE NEW CUNARD BUILDING, LIVERPOOL.

One of the largest and most important buildings completed under war conditions in this country is the great block which forms the new head offices of the Cunard Steamship Co. at Liverpool. Its main front is to the Pierhead, with rear elevation to Goree, and side elevations to Water Street and Brunswick Street. It occupies the centre portion of what was the St. George's Dock, and has as neighbours the Royal Liver building and the Mersey Docks and Harbour Board building. In general architectural treatment the exterior follows the Italian *palazzo*, but the interior construction of the building is essentially modern, consisting of a reinforced concrete frame, to which the Portland stone façades are applied as a suitable finish.

In preparing the site the engineers were confronted with the problem of keeping out the water which found its way in at high spring tides. At the Brunswick Street side a reinforced concrete wall was built 300 ft. in length which shut out the tidal water rising and falling in the existing arches under Brunswick Street. On the river front a mass concrete wall 8 ft. thick was constructed.

The foundation of mass concrete piers were built on the rock bed which existed at 18 ft. below the clay surface at the Pierhead end. The piers range from 4 ft. square to 8 ft. 9 in. square, the latter running up to the underside of the mezzanine floor and forming the bases for the reinforced concrete columns. The building has eight floors. The roof to the fifth partly forms a sixth floor, having keeper's house, tank rooms, lift motor rooms, kitchens, restaurant, motor rooms for the heating installation, and numerous other offices.

The mezzanine floor is formed of a 6 in. reinforced concrete slab, secondary and main beams. The main beams were all designed on the elastic theory. The columns were designed to carry the elastic reactions from the beams. In addition, the exterior columns were calculated for eccentric loading given to the columns by the very heavy Portland stone, which is all carried by the external beams. The remaining floors, lower ground to roof, are all constructed with a 2 in. slab supported on floor ribs 8 in. deep running at 2 ft. centres. These are again supported on the main beams. The columns are spaced generally at 16 ft. centres on the long elevation, this being the span of the floor ribs. All floors have been designed to carry a live load of 100 lb. per ft. super. except the mezzanine floor and part of the lower ground floor, which are designed for a live load of 150 lb. per ft. super.

For the construction of the floors hollow steel tile has been used. The upper view on the opposite page shows the centering for these tiles. It will be noted that the boards supporting them are placed with a space between, *i.e.*, open centering is used instead of the close-boarded centering required when the solid floor slab construction is adopted. By means of this open centering a considerable quantity of timber is saved and a corresponding proportion of labour. The open centering is, in fact, about one-half the cost of close-boarded centering. Another point of interest is that with this steel tile floor one can have long-span flat slab construction from main beam to main beam without the use of intermediate or secondary beams. This type of floor enables flat slabs to be made up to 25 or 30 ft. span without secondary beams. The floor itself, being hollow, is very light. With a 25 ft. span, if one had a solid slab, about 8 in. of concrete would be needed, weighing 100 lb. per sq. ft., whereas the dead weight of the steel tile floor is about 45 lb. per sq. ft. This results in a saving in the structural portion of the building, because the beams can be designed much lighter, and there is also a very extensive saving in the foundations.

The main corridor in the centre divides the building into two parts, each part having a light area from the ground floor upwards. The roof lights constructed in the areas are carried on reinforced concrete corbels projecting from the columns. In the main corridor are two sets of three lifts, one on each side of the main staircase.

The main staircase, beginning at the ground floor, is rather unique in its construction, there being no stringer beams on the well side of the stairs, but a 6 in. reinforced concrete slab supported on the wall beams. Double floors are constructed on each side of the main staircase to carry and hide the wastes from the lavatories.

Access to the building is gained by four entrances at the ground floor level, each being constructed of a reinforced concrete slab carried on cross beams. At each corner are twin columns.

At the Pierhead end and the long elevations a reinforced concrete slabbed area with glass lights forms a way round the



THE CUNARD BUILDING, LIVERPOOL. WILLINK & THICKNESSE AND MEWÈS AND DAVIS, ASSOCIATED ARCHITECTS.

outside of the building at the lower ground floor level.

At the Goree end a reinforced concrete cartway is built sloping from Water Street and Brunswick Street to the centre of the building. This is designed to carry a heavy coal waggon, the slab being 8 in. thick reinforced with Kahn bars: secondary beams supporting the slab are again carried by the main beams, which are supported on the dock wall on one side and by reinforced concrete corbels projecting from the external piers on the other side.

A feature of the building is the main cornice, which is entirely carried by reinforced concrete cantilevers. The modillions, at 4 ft. centres, have a dove-tailed slot cut in on the top of the stone, and over each a reinforced concrete cantilever is made which carries the modillion and the two courses of stone above it. In the course above the modillion the stone is hollowed out on each side, so that the reinforced concrete cantilevers prevent these stones from tipping. The two courses below the modillions are also dove-tailed, thus preventing any movement should the stones crack or decay. The small cantilevers carrying the modillions are anchored back to a large mass of reinforced concrete which is carried on the external beams, and the whole is again anchored back to a beam which is tied at its end to the main floor beams. The projection of the cornice from the centre line of the external beams is 7 ft. 9 in. and at the corners 12 ft. At the corners it was necessary to employ a much stronger cantilever; the concrete was therefore taken up to the level of the top course of stone, thus allowing an extra depth of beam to be provided.

Above the cornice a screen wall is built, the reinforced concrete frame consisting of buttresses 14 ft. high over each external





THE CUNARD BUILDING, LIVERPOOL, IN COURSE OF ERECTION.

pier and two connecting beams, one at the top and one at the centre. The buttresses are tied back in a similar manner to the cornice cantilevers. The wall was designed to resist the noted gales of eighty miles an hour which are experienced in Liverpool.

Messrs. Willink and Thicknesse, of Liverpool, and Messrs. Mewès and Davis, of London, are the associated architects for the building. The general contractors are Messrs. W. Cubitt and Co., of London. The reinforced concrete work is on the Kahn system and has been designed and carried out by The Trussed Concrete Steel Co., Ltd., of Westminster, whose system of hollow steel tiles has also been adopted for the floor construction.

A CONCRETE TEA-GARDEN HOUSE.

The accompanying illustrations show the Rhiwbina Tea Gardens, situated at the foot of Rhiwbina Hill, near Cardiff, which have been carried out to the design of Mr. T. Alwyn Lloyd, Licentiate R.I.B.A., of Cardiff. The buildings, which were completed at the end of last year, are constructed on the "Calway" system of concrete walling—9 in. thick, including a 2 in. cavity, with reinforced ties. The walls are of fine concrete, composed of clinker, crushed stone, and cement, rammed into a mould which was moved round the building by means of Calway's patent as the work proceeded. The walls were covered with two coats of cement rendering, left rough from the float and colour-washed. The accommodation consists of a shop and tea room (with oriel windows for show cases), living-room, scullery, parlour, and covered yard on the ground floor, with four bedrooms and bathroom upstairs.

The design was kept quite simple, with wide sash windows, plastered eaves of good projection, and a pyramidal roof covered with thick blue Welsh slates.

The gardens have been laid out by the proprietor, Mr. W. A. Smart, from the architect's plans. Good effects have been obtained by trimming and cutting back the old front hedge on a turf bank, and by lawns arranged on the front side and back of the premises. The rustic trellis screen and pergola seen in the photograph were not part of the original design.

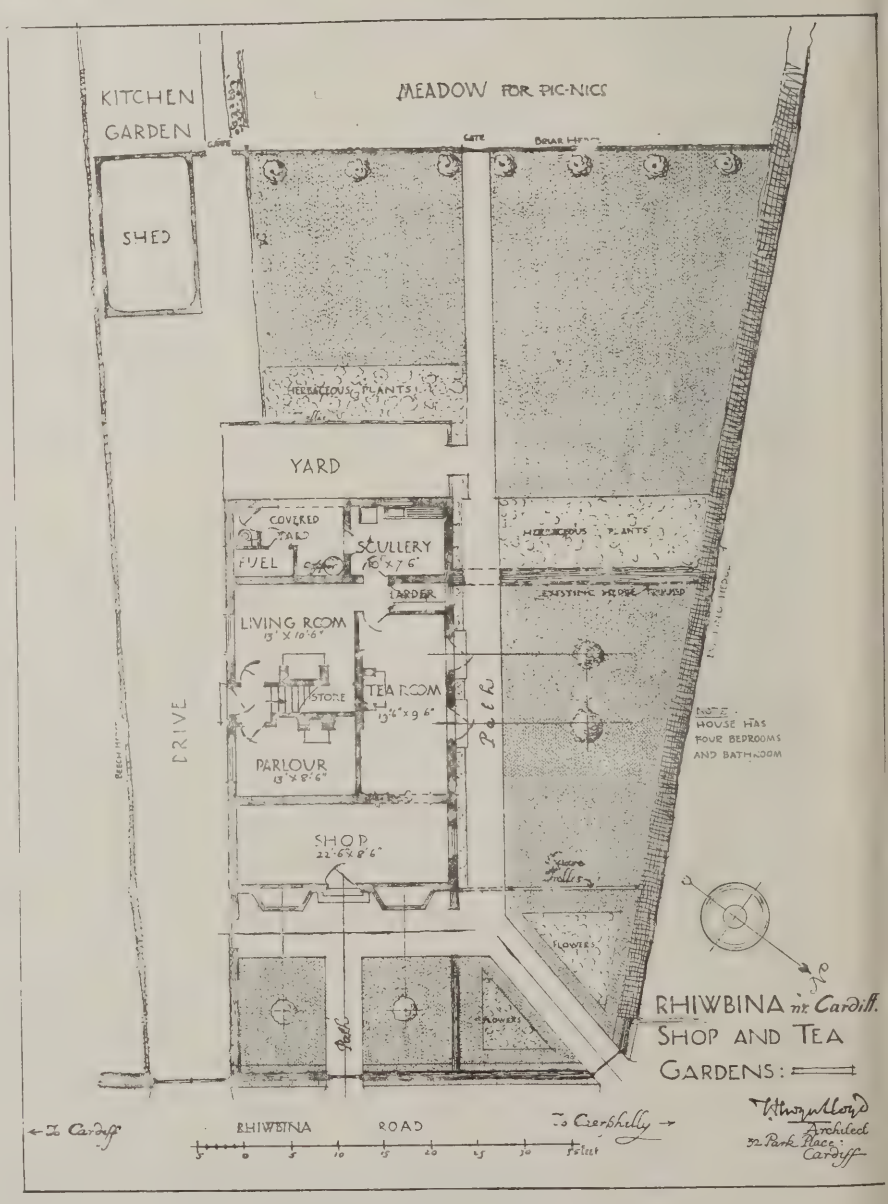
Mr. J .O. West, of Whitchurch, was the builder.

CONCRETE TENNIS COURTS.

No greater advantage can be claimed for the properly constructed concrete tennis court than freedom from the maintenance necessary to keep soil and grass courts in suitable condition for play. The concrete court is always ready and is particularly efficient where necessity compels that a court shall be in a relatively low spot, since with concrete the playing surface will be dry regardless of the nature of the surrounding soil.

In planning to lay out a tennis court suitable provision must be made for foundation drainage, this being necessary principally to prevent water from being retained beneath the pavement and the consequent heaving that would result from freezing and subsequent expansion. Drains should be placed to take away surface water running off the court, and good practice now advocates that the sur-





TEA HOUSE AND GARDENS, RHIWBINA, NEAR CARDIFF.

T. ALWYN LLOYD, LICENTIATE R.I.B.A., ARCHITECT.

ace be sloped at a rate not exceeding two nches in sixty feet from side line to side ine.

The subsoil needs to be carefully pre-ared, all soft spots being dug out and lled with gravel or clean cinders, which hould be thoroughly compacted. Follow-ng this the whole foundation area should e thoroughly rolled to uniform firmness.)n top of this there may be placed a sub-ase of well-compacted gravel containing a elatively small quantity of sand or a layer f well-compacted cinders, when trouble is xpected from water; on soil in which rainage is free, a sub-base will not be ecessary.

When a gravel or cinder sub-base is equired the site of the intended founda-on must be excavated sufficiently, so that ne surface of the finished court will e at a proper level in relation to the urroundings. It is a good plan, however,) grade the ground up to the court so that ne court surface is somewhat above the urrounding ground level. This tends to etter drainage of the foundation.

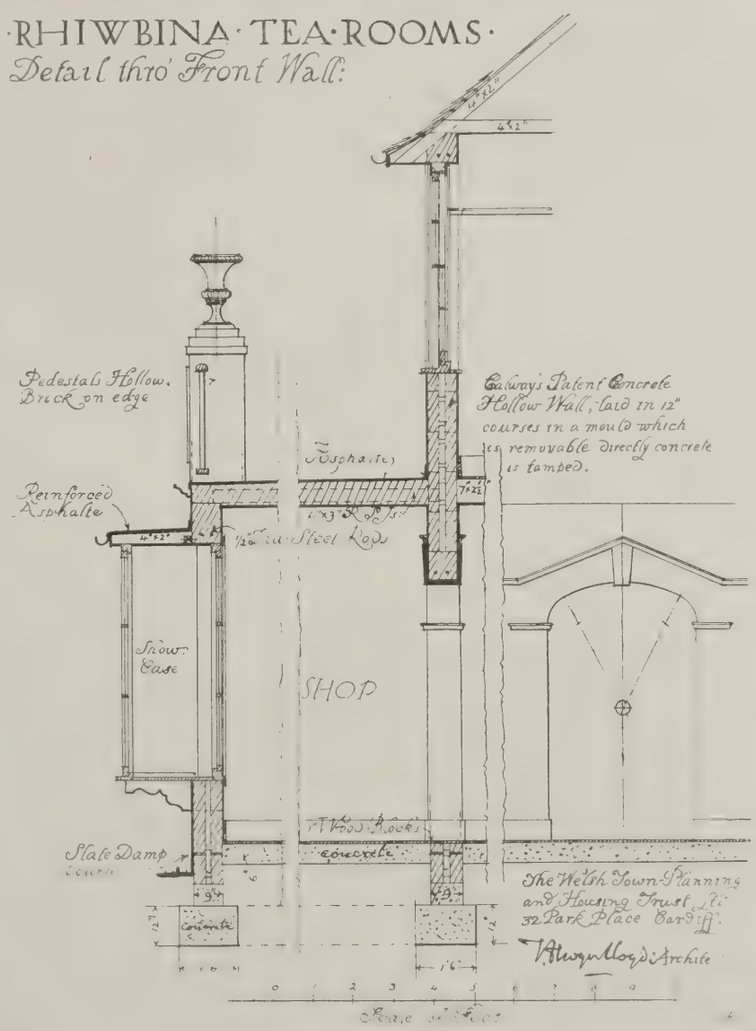
Good practice recommends that the nickness of the concrete pavement shall e not less than 4½ in. Of this the base akes 3½ in., leaving 1 in. for the top, or earing course. The base should be of oncrete mixed in the proportions of one ack of Portland cement to not more than ½ cub. ft. of clean sand, well graded om the finest permissible particles to nose that will just pass a ¼ in. mesh creen, with the coarser particles pre-ominating, to not more than 4 cub. ft. of lean well-graded pebbles or broken stone anging in size from ¼ in. to 1¼ in. In no ase should the volume of sand used be less nan one-half the volume of the pebbles or roken stone.

The individual slabs should be re-nforced with steel rods or wire fabric, the itter placed lengthwise of the court ections: it should be placed upon and ightly pressed into the concrete of the ase immediately after the base is placed. he reinforcement must not cross joints, s slabs must be independent of each other nd the reinforcement also should be not ss than 1 in. from the finished surface of ne court. The top or wearing course ould consist of a cement-sand mortar ixed in the proportions of one sack of ortland cement to not more than 2 cub. ft. f sand, meeting the requirements already ecified. It is very necessary that the earing course shall be placed immedi-tely after mixing and before the concrete the base hardens. Not more than forty-ve minutes must be allowed to elapse etween placing the concrete for the base nd that for the wearing course.

In mixing the concrete sufficient water ust be used for the base mixture, so that ee moisture will flush readily to the sur-ace when compacting the concrete by ight tamping. The mortar for the top r surface should not be mixed any wetter an necessary to make it possible to strike ff the surface with a saw-like motion of ne strikeboard. After this the surface ould be floated and finished smooth first ith a wood float and then gone over ghtly with a steel trowel.

One of the most vital requirements lead-g to success in pavement construction, of hich the concrete tennis court is a type, is at the concrete shall be properly pro-cted after placing to ensure uniform ardening. This means that as soon as ossible a moist earth or sand covering ould be applied without marring the ncrete surface; it should be thrown over ne concrete and kept wet for at least ten





CONCRETE TEA-HOUSE. RHIWBINA. NEAR CARDIFF.

T. ALWYN LLOYD. LICENTIATE R.I.B.A., ARCHITECT.

days. When carried out in accordance with proper specifications and by careful workmen, the concrete court requires no attention for maintenance other than may be necessary once a year to paint the court lines, unless these are inlaid by means of a white Portland cement mortar. The following is a method that has been adopted with success: Court lines were first marked out by snapping a chalk line, then painting stripes with aluminium bronze paint, which was afterwards painted over with white lead and oil. The object in using the aluminium bronze paint first was to prevent the white paint from "creeping" on the smooth concrete surface.

To overcome any objection that some may raise as to the possibility of the finished surface causing exessive light reflection during sunny days, the concrete mixture used for the top course may be tinted by adding lampblack in the proportions of one pound to one sack of cement. Attempts have been made to secure a green tint to a concrete court surface by using a green colouring matter in the same manner. But, so far, no satisfactory green colouring matter that is permanent has been found. Most of the green pigments tend to fade more readily than some other colours do. Generally speaking, the mineral pigments are practically permanent. Brown and reddish tints may be secured by using a suitable natural coloured silica sand or one of the garnet sands in the top course.

BUILDING REGULATIONS AND REINFORCED CONCRETE.

Mr. William Black, F.R.I.B.A., in a paper read at the seventeenth annual general meeting of the Cape Institute of Architects, dealt with the subject of revised building regulations suitable for use in Greater Cape Town, and outlined several suggestions which could with advantage be introduced into the amended building by-laws and regulations that were then being prepared. In particular, his references to reinforced concrete construction will be read with interest in this country. The by-laws of the Peninsula, he said, lack uniformity and are abundant in inconsistencies, those in vogue in the city being not only of a semi-antediluvian character, but the metropolitan by-laws are in direct contravention of those allowed in certain suburbs now within the unified area.

Conflicting By-laws.

The by-laws at Muizenberg and Kalk Bay differ widely from those in use in the city; a villa could be erected as one of substantial construction in Cape Town that would be in direct contravention of the regulations at Muizenberg. For instance, nine-inch outside walls may be built in Cape Town, whereas the regulations at Sea Point and elsewhere demand fourteen-inch thickness of brickwork; the actual cost of material that can be saved in bricks and mortar, etc., in the city being one-third, which is a considerable saving in cost as compared with certain suburbs which demand an unnecessary squandering of money in unproductive building material.

In Greater Cape Town the eleven-inch hollow wall, built with a four and a half inch inside and a four and a half inch outside wall and a two-inch cavity (the cavity being for air-space and ventilation, as well as for dryness and coolness) would prove a more desirable wall. This class of wall-construction, however, is not permitted, though it can be used in most British possessions outside the Peninsula.

It may be argued by many that the fourteen-inch wall is more desirable than the eleven-inch, but among those who have used this class of wall in wet localities as well as in hot and dry situations the greater weight of professional and practical experience is in favour of the eleven-inch cavity wall, and in addition to this the adoption of an eleven-inch wall effects a saving of one-third in the quantity of bricks required.

Dealing with the matter of factory walls, notwithstanding the many efforts made to introduce outside, party, and fire walls of a minimum of thickness compatible with stability, the city authorities disallow walls of economic thickness which save cost and valuable storage space, and compel the building public to erect walls fourteen, eighteen, and twenty-seven and a half inches and even greater thicknesses, where a four to five inch wall would, if properly reinforced, amply suffice.

Provision should also be made for the cutting-up and sub-dividing of an office and tenement building with one and a half inch cement or two-inch reinforced concrete partitions, provided the partitions are substantially built.

Reinforced Concrete.

In connection with regulations for reinforced concrete buildings, a simplified code of regulations and recommendations should be formulated to avoid conflicts, and without data that tend rather to mystify and reduce to a close study of higher mathematics, not at all times necessary to meet the general class of architectural practice. It is common with civil engineers as well as architects, especially when business methods and competition demand an economy of time in determining the strength of materials, to adopt "empirical formulæ" in selecting a method of designing their reinforced concrete structures, or to calculate on the maximum bending moment, adapting certain determined constants and coefficients which give absolutely safe working results, and so simplify a class of construction that should not necessarily become the work of specialists.

Of course, in extraordinary work of large spans, bridge work, or wherever unusually heavy and novel construction is adopted, strains, stresses, and thrusts must be specially cared for.

Having spent a considerable time in investigating the many and varied systems adopted by engineers in France, Germany, America, and other countries, and realising the speculative risks taken by the uninitiated, it is advisable in the general interest of safe construction for the City Engineer to be fortified with regulations which can be employed when in reasonable doubt as to the safety or workmanship of a structure, or the ability of the designer; in fact, a building commissioner should be appointed to deal with the subject of reinforced concrete buildings and other regulations.

Premature Testing.

A large percentage of accidents have occurred through premature striking of falsework. Occasionally defects have been traced to the use of improper materials, and in cases to insufficient rigidity of the falsework, or the concrete has been subjected to vibrations while setting; all these points should be cared for in a revision of the building regulations. It will be interesting, however, to note that seldom has failure been traced to the inherent weakness of the structure.

Dealing with tests, it should be remembered that a reinforced concrete structure increases in resistance with age up to a few years after construction, and it is unfair to strain materials severely during the initial stages of the hardening of the concrete.

Not any test loading should be attempted for three months without the special permission of the architect, builder or owner, and it should be incumbent upon the city authorities to give ample and timely notice of such intention to test, and even then the accepted test should never be so severe as to endanger the structure, and a fair proposal would be that the test should not exceed the maximum load for which the structure has been designed. A test of this nature is sufficiently severe, as it is a well-known fact that the resistance and strength of reinforced work must increase with the age of the concrete.

Some suggestions of what the revised Building Act should make provision for are as follows:—

The regulations shall be interpreted liberally with a view rather to encouraging reinforced concrete construction than to baulk enterprise. The adoption of the British standard for cement as well as for steel bars. Special clauses are required to deal with the rigidity of falsework and more particularly, the removal of same, so as to prevent the speculative risks of the inexperienced. At least twenty-four hours notice of completion of falsework and the commencement of any storey should be given the authorities. All tensile reinforced bars should be hooked, split, or otherwise effectively anchored at the end unless special provision for ensuring adhesion is otherwise satisfactorily provided. All sheer members shall extend from the centre of tensile reinforcement to the centre of pressure in the concrete under compression. A summary of proportions of ingredients should be set forth that can only be modified with the City Engineer's permission, and a system of mixes that might prove acceptable would be as follows:—

	Cement.	Sand.	Stone.
Foundations require	1	2½	5
Outside wall piers, etc	1	2	4
Girders, beams, floors, and roofs above the steel members, also inside columns require	1	1½	3
Girders, beams, floors, and roofs below the steel require	1	1	2
Wearing surface of floors	1	2	—

All aggregate should be approved.

Proper incorporation should be insisted upon by scientific rodding, cutting, tamping, and rolling. The thickness for slab T-beams should in no case be less than three and one-eighth inches. In all beams and floors the most unfavourable but practical distribution of load is to be assumed.

In determining position of reinforcements of beams, floors, and columns the City Engineer can demand, when in reasonable doubt, an inspection of the plans for steel reinforcements together with their disposition to take up bending moments, stresses, tensile and compressive strengths, shearing, etc.

If the City Engineer is not satisfied that due regard to stability has been cared for the architect or engineer may prove to the authority, and if the City Engineer be then dissatisfied he shall suggest what substitution or alteration he requires.

It shall be possible, however, for the owner, or his architect or engineer, to refer any matter of disagreement to the Municipal Arbitrator or Appeal Court for a final decision.

Destruction in the War Area.

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MEMORIALS.

Alfred Lyttelton Memorial.

The memorial tablet erected in St. Margaret's Church, Westminster, by members of both Houses of Parliament to the late Mr. Alfred Lyttelton, was dedicated last week. Sir William Goscombe John, R.A., designed the tablet, and the Master of Trinity wrote for it the following inscription: "Erected by members of both Houses of Parliament to the memory of the Right Hon. Alfred Lyttelton, K.C., M.P., Secretary of State for the Colonies, 1903—1905. At Eton, at Trinity College, Cambridge, at the Bar, in the House of Commons, a man greatly beloved in youth by his rare athletic grace and skill. His name had a charm for thousands of his countrymen, his manhood enriched by vigour of mind, by largeness of heart, and by noble manners, presented, as was finely said on a memorable occasion, an ideal to which every English father would wish his son to aspire. Born February 7, 1857. Died July 5, 1913."

Monument to Lord Roberts at Glasgow.

The form of the monument which has been erected in Kelvingrove Park, Glasgow, to the memory of Lord Roberts, was decided after consultation with the Dowager Countess Roberts, who suggested that the city should procure a duplicate of the equestrian statue of Lord Roberts executed by the late Mr. Harry Bates, A.R.A., and erected in the Maidan at Calcutta.

The Founder of Bedford Park.

A wall memorial has been placed outside the church of St. Michael to commemorate Mr. Jonathan Carr, who founded Bedford Park and is regarded as the pioneer of the garden city movement. With the late Norman Shaw he turned market gardens into a beautiful residential district. The memorial takes the form of a portrait medallion set in a framework of stone and is the work of two members of the artist colony, Mr. Charles Pears and Mr. Martin Travers.

Printers' War Memorial.

From the printing and allied industries about 30,000 men have joined His Majesty's Forces. To commemorate their response to the country's call, a representative conference of members of the printing, stationery, and kindred trades decided to erect a new wing to the Caxton Convalescent Home, Limpsfield, in which an honours roll will be placed.

The First Kitchener Memorial.

The first memorial erected to the memory of Lord Kitchener has been unveiled at St. Botolph's Churchyard, Bishopsgate, by the Lord Mayor. The memorial takes the form of an octagonal cross and bases, standing nearly 12 ft. high, executed in Portland stone. On the principal face, engraved in letters of gold, are the words—"Kitchener, June 5th, 1916: Lest we forget." Inscriptions on the other faces commemorate Officers and Men of the Hon. Artillery Company who died in the War; John T. Cornwell, of H.M.S. Chester; and "Our Brave Dead of Bishopsgate, 1914-1916." Messrs. G. Maile and Son, the ecclesiastical sculptors, of Euston Road, were commissioned to design and execute the memorial.

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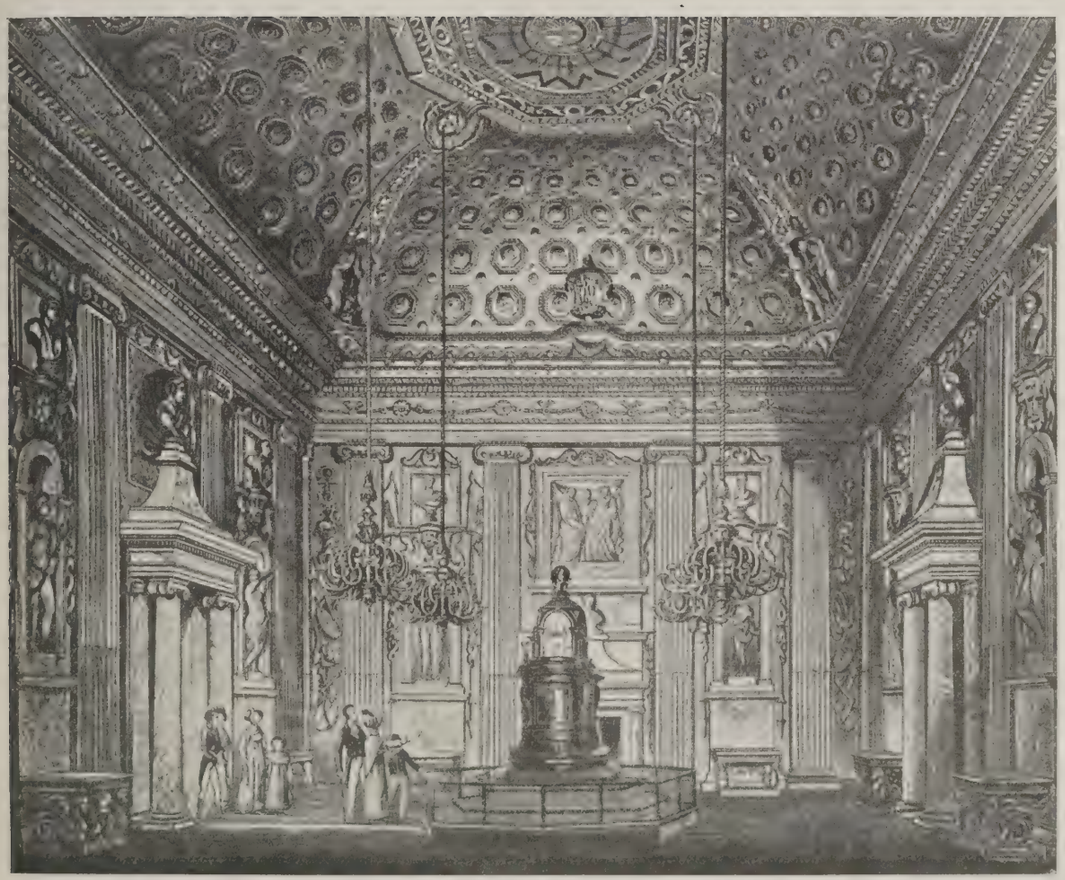
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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, August 23, 1916. Volume XLIV. No. 1129.



THE CUPOLA ROOM AT KENSINGTON PALACE. DESIGNED BY WILLIAM KENT.

(See page 91).

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 23, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1129.

EDITORIAL.

NOTHING has given greater satisfaction during the past week than Mr. Montagu's munitions speech in the House of Commons. From earlier statements by Mr. Lloyd George we had already gained a fair idea of the tremendous changes which were in progress, but the actual figures given by Mr. Montagu came as a surprise, and created not only a sense of great satisfaction with the present state of affairs, but also stirred a most vigorous hope for the future. When, for instance, we learn that there are now more than two and a quarter millions of men and women engaged on the production of munitions for ourselves and for our Allies, we begin to realise what a tremendous force Britain is when thoroughly awakened. It is an unfortunate trait that we are always slow and faulty at the start, but there is a set-off to this in the fact that when we really take up a work we throw into it a vigour and completeness which ultimately put us in the forefront. This has been the case both with submarines and aeroplanes, and there is no doubt that it will be the same with munitions. There are now no fewer than ninety-five national munition factories in existence in this country, as compared with three at the beginning of the War, and even this great number cannot be regarded as final. We have always given our whole-hearted support to the Ministry of Munitions, and have never taken that small view which found expression in carping criticism when the restrictions first on the supply of steelwork, and later on building generally, were promulgated. These restrictions were not imposed for any reasons other than national reasons, and it is gratifying to know that the great body of opinion in the architectural and building world has accepted the order in a proper national spirit.

* * * *

Though ordinary building work costing more than £500 can now only be carried on by licence issued by the Ministry of Munitions, and though the War has largely put a stop to private and municipal enterprise, the building trade is by no means dead, for the erection of munition factories and other buildings connected with the War has given employment not only to a very large number of workmen, but has also created a huge demand for building materials and appliances, and the further development of the magnificent organisation which was initiated through the genius of Mr. Lloyd George is bound to create a still further demand for labour and materials.

* * * *

The subject of War memorials continues to make a small stir in one place and another, and while some writers are putting forth large ideas, and people of taste are endeavouring to explain what we ought to do, a small crop of memorials is beginning to spring up, and these make one fearful of what may come later, because for the most part these memorials are of a very poor quality, designed by men who have little sense of architectural character, and who are simply duplicating a stock sort of monument in a dull way. As someone has said, contemplating an array of memorials like these: "There are terrors greater even than Death." One proposal which has lately been given publicity is put forward by Brigadier-General the Earl of Shaftesbury, whose idea is that wayside or village crosses should be erected. This idea is being strongly denounced by the Protestant Alliance, who, of course are looking at the matter entirely from an anti-Catholic or anti-Ritualistic point of view. This aspect of the matter is not one which we can enter upon, but in view of the fact that the Army is made up of men of all creeds, to some of whom the wayside cross would make a strong appeal, while to others perhaps it would be equally distasteful, surely a better choice would be for a form of memorial that is free from all such controversy. We have long held the opinion, and have already expressed it in these columns, that for a small public memorial of this kind no better form than the obelisk can be found. It is capable of great variety of treatment, so that there need be no risk of one stereotyped form being duplicated, and it gives an opportunity for the presentation of the names of the fallen in a manner which is at once decorative and a record.

* * * *

One thing in regard to memorials which we would emphasise is, that the architect should come more into prominence. It has been the common practice for the sculptor to be the dominating person, and it is he who, with little architectural knowledge, has inflicted upon us so many unsatisfactory memorials. In the columns of the "Observer" we notice space has been given to a mild discussion of "the sculptor's job." Mr. Eric Gill is the protagonist. We ourselves are not in sympathy with Mr. Gill's outlook, but while being no admirers of those archaic forms which appeal so strongly to him as suitable for translation into modern work, we are only too well aware that all is not right with the state of modern sculpture. There is far too strong a following in the dazzling way of Michael Angelo, Alfred Stevens, and the modern French school, so Mr. Eric Gill and others who hold his views may be serving a good purpose in getting us back to first principles with the hope of there finding a sound foundation on which to build afresh.

* * * *

A great national memorial to the fallen we shall have in due time, but what form it is likely to take, and where it is likely to be, are for the future to decide. Meanwhile Mr. Lewis Hind comes forward with the suggestion that in conjunction with a new bridge at Charing Cross, to be called Empire Bridge, with pylons memorials to Lord Roberts and Lord Kitchener, the

should be an Empire Place on the northern side, with a Memorial Chapel—"small but high, very simple, very beautiful this shrine on a little hill, a place of peace in the highway of traffic, a consecrated spot above the Thames in the heart of London and the Empire, within view of the cross at St. Paul's and the towers of the Mother of Parliaments. . . . Wide, ascending subways, radiating from the adjacent pavements, would lead up to this shrine, and, on the walls of these bright subways, all the cities, towns and villages of the Empire would be invited to fix memorial tablets to those resident in their neighbourhood who have made the great sacrifice and have given their lives for their country. . . . Above the chapel I would have a flag flying always, broidered with the sixty-four flags of the Empire, and, once a year, on Empire Day, it would be taken down, and a new flag, similar in design, would be raised in its place; and the flag that had served its proud year would be presented to a city of the Empire." All of which is very poetic, but, so far as the chapel is concerned, too precious. The bridge idea is right and proper: we badly need a new Charing Cross Bridge, or whatever it may be called, and it should form part of a great replanning of this portion of London. But if there is to be anything in the way of a memorial chapel, let us have rather some great Pantheon, some grand Hall of Heroes. Mr. Hind's chapel seems to us too much of a jewel casket, and the suggested "bright subways" leading up to it would, we are sure, be very unhappy. You cannot successfully memorialise the dead in a tunnel, lined possibly with glazed bricks!

* * * *

To criticise memorials is a rather delicate task; but, after all, such criticism is challenged when the work is publicly displayed, and is justified when it is made in full sincerity, yet with a due regard for the feelings of those concerned. No doubt Mr. Gerald McMichael was actuated by these purely impersonal motives in sending to "The Times" his opinion that something "more in accordance with the spirit of the times" than what he calls a "fourteenth-century Gothic cross" would have been preferable as a monument to Lord Kitchener in the City. (No doubt he refers to the memorial which has been unveiled in the churchyard of St. Botolph, Bishopsgate.) He supports his plea by saying that "in a period that has produced the motor-car, so expressive of its purpose and so beautiful in its design, it seems rather weird to reproduce a fourteenth-century cross as a war-memorial." Certainly, a thing of beauty is a joy for ever, and the fourteenth-century cross has evidently survived that test, which the motor-car has yet to pass. Fashions in motor-cars change rapidly; and the sculptor has something better to do than to record an ephemeral fashion. Five years hence the "beautiful" motor-car of to-day may be an anachronism and a laughing-stock. It is to avoid giving ludicrous permanence to a momentary fashion that sculptors so sedulously avoid representing a man "in his habit as he lived." They instinctively prefer the eternal toga to the tailoring of to-day, for they know that the Nemesis of being "up to date" is to be shortly out of date.

* * * *

A complaint from another quarter refers to the medallion to Mr. Alfred Lyttelton which Mr. Arthur Balfour has unveiled in St. Margaret's, Westminster. In this instance it is merely the wording with which fault is found. There is too much of it, and it is too fulsome. It would have been sufficient to say "A man greatly beloved" but it goes on: "In youth, by his rare athletic grace and skill, his name had a charm for thousands of his countrymen. His manhood, enriched by vigour of mind, by largeness of heart, and by noble manners, presented, as was finely said on a memorable occasion, an ideal to which every English father would wish his son to aspire." We are sure that every word of this is true, but it does not ring true in the expression, because it savours, however faintly, of the language of eulogy. It even falls short of Lyttelton's deserts; but future generations will not know that the eulogist has fallen short of the mark rather than shot beyond it. Besides, so long an inscription overloads a memorial with lettering.

* * * *

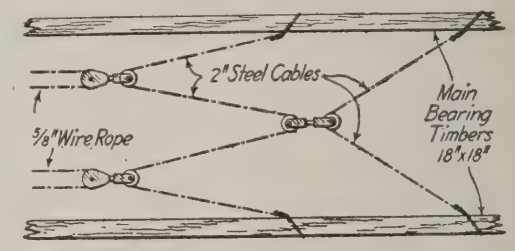
The most interesting announcement is made that Mr. Muirhead Bone has been officially appointed to make a series of drawings at the Front, and elsewhere, showing the extraordinary effects of the War—the destruction of historic buildings, the mighty mechanisms which have been created for its prosecution, the astounding operations of excavation and construction, and the thousand different variations of effort by which the offensive of our Army is being carried out. No better selection could have been made. Mr. Bone, who is already serving as an officer at the Front, is a draughtsman possessing a rare skill, and we can count upon receiving from him some of the finest pictorial records of the War. His name is especially associated with a series of magnificent pencil drawings of what may be called the dramatic side of architecture—huge scaffolds, towering buildings, or great compositions in stone and brickwork, and it is his peculiar talent to render these at once with detail and breadth. There is nothing mechanical about his drawings, yet there is deliberate accuracy and carefulness in every part. This dual rendering puts him at the head of contemporary architectural draughtsmen, though Mr. Walcot, in another sphere—a sphere where suggestion is the dominating motive and the main idea is to grasp the underlying spirit of buildings—displays an equally brilliant talent. We have innumerable photographs of architecture shattered by bombardment, and these serve their purpose as a positive record. Mr. Muirhead Bone's drawings will supplement them as an artistic record can only do. They are sure to be prized both by us and by generations to come for their great qualities.

* * * *

It was only to be expected that few new schemes of housing and town-planning could be recorded for 1915-16, so that the Local Government Board's report on the subject, issued last week, came as no surprise. Early in the year it was found necessary, in accordance with an agreement arrived at with the Lord Commissioners of His Majesty's Treasury, to refuse to sanction loans for the purpose of fresh schemes under Part III. of the Act of 1890, except in cases where the dwellings were urgently needed in connection with war requirements. This principle, which was stringently applied, meant the postponement of schemes in a large number of cases, and involved a definite refusal to sanction loans amounting to £863,279 to seventy-five local authorities for the purchase of land and the erection of 3,397 houses: all of which, let it be borne in mind, will have to be carried out later, so that so far as the building trade is concerned the matter is not dropped, but simply set aside for the present. And it is the same case of postponement with the town-planning schemes. Although in some respects the time might be regarded as favourable for the preparation of such schemes, the Board have not considered it desirable to press local authorities unduly to go forward with them, but they think it is very desirable, nevertheless, in view of probable developments after the War, that local authorities should take every possible opportunity to advance their schemes, in order that when the opportunity for building occurs, progress with building operations may not be impeded.

HERE AND THERE.

MOVING house means for most of us an ungodly assemblage of domestic impedimenta, a batch of men with aprons and insatiable thirsts, and the distinctive smell of that kind of matting which always accompanies the pantechnicon: and before going any further, let me pause at that last horrid word. "Pan," adjectival, or as a prefix, means all-embracing, of things or peoples, and so we have panacea, panorama, pantheism, pandemonium, pantomime, Pan-American and Pan-Germanic; though when used rather as a noun it leads to pancake and pantile. As regards "pantechnicon," let it be noted that this originally meant a London bazaar for all sorts of artistic works, then later a storage warehouse (the bazaar having been converted into one), and lastly the furniture van and its matting. To resume, therefore, house moving means a pantechnicon for most of us. But there is an easier way. We have heard of it many a time in general, though not in particular, and it is in particular that I now wish to refer to it. It is an American way and gets over the pantechnicon difficulty very sweetly by moving the house and its furniture bodily together. I had thought, however, that this method was concerned more with shanties and small frame buildings. But here is fact and photograph to prove quite otherwise. We see a large house, of a dead weight estimated at 800 tons, being moved from one estate to another outside San Francisco. For my own part it is not the sort of house I should trouble to move at all. I should prefer to leave it in obscurity, to forget that it had ever been my fate to live in such a house. But *chacun a son goût*, and doubtless the purchaser was thoroughly well pleased with the house, otherwise he would never have gone to the trouble and expense of moving it to his new site. Clearly it is a large house. On plan it measures 135 ft. by 85 ft., and there are four storeys providing thirty-three rooms, some with built-in safes; there are also six chimneys, one of them very heavy. The house is described as having been built many years ago when "massive construction was the custom," but whether the walls are of brick or stone, or of timber frame tile-hung, I am unable to determine. But in any case it was no light thing to tackle. The house-moving contractor proceeded in this wise. First the structure was raised from its old foundations by placing five rows of 12 by 10 beams lengthwise under the ground-floor joists, and 14 by 12 cross-beams at 3 ft. centres, extra beams being provided where, as under the chimneys, extra heavy loads were concentrated. Short 16 by 14 spring beams were laid beneath and parallel to the cross-beams and rested in turn on two lines of 18 by 18 baulks running the full length of the house. The load was thus finally brought down on to these large bottom baulks, which bore directly on 8-in. rollers and to which the pull was applied in the manner shown by the accompanying diagram. The tackles, it will



be seen, were arranged in such a way as to equalise the strain on the baulks, and when two double-horse teams got to work on capstans, with an attendant gang of eighteen men, it was found that everything went on merrily enough, the house travelling at an average rate of 20 ft. an hour. A ravine had to be crossed, necessitating the building of a trestle 300 ft. long and a 500 ft. grade down which the house must descend at the rate of 1½ in. to the foot, and a runway of cribs was built ahead of the structure as it advanced, the rollers running on a bed of 12 by 14 stringers resting directly on the cribs and without post supports. It was a specific condition of the purchase that in moving the house no injury should be done to any of the trees on the estate, and this condition made it necessary at one point to make a right-angle turn. This was effected by building eight circular runways beneath the shoring and providing each with rollers. When this improvised turntable was ready, the pull was applied at opposite corners in opposite directions, and the half-revolution was thus successfully accomplished. "And so home," as Pepys might have said.



MOVING A HOUSE.

* * * *

The official guardians of Westminster Abbey are the Dean and Chapter, who might be assumed to possess a right proper Dean and Chapterly sense of their responsibility. Professor Lethaby is their architect, and we know him for a man who would ever deal reverently with the heritage of the past; while as for the present, is he not, in all matters civic, the high priest of "tidying up"? How comes it, then, that a corner of our Abbey—the angle of the north transept with the choir—is used as a dumping ground for coke? There must be some tons of this coke, and though it is tucked away as discreetly as possible, it cannot escape the attention of the passer-by with eyes to see. There it is, piled 6 ft. high, smothering the lower portion of the walls and obliterating two doorways. Maybe it is a small thing in the midst of a great War, but, none the less, its existence is a scandal, and scandals of a public nature deserve exposure even in War-time. Let the Dean and Chapter beware lest a photographic record be thrown upon the printed page. A Dean and Chapter in the pillory would not be seemly.

* * * *

Shakespeare, who said all things, did not omit a prophetic estimate of the Huns. It is in the "Merchant of Venice." Nerissa asks Portia: "How like you the young German?" and Portia replies: "'When he is best he is little worse than a man, and when he is worst he is little better than a beast.' This War has shown him throughout as the latter, a beast always, from the first horrors of Belgium to the latest devilish frightfulness, whether it be the judicial murder of a sea captain or the firing of phosphorus shells to increase the anguish of the wounded.

UBIQUE.



MODERN AMERICAN ARCHITECTURE (SERIES II.). V.—NEW BUILDINGS FOR THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.: GENERAL VIEW OF MAIN PORTICO AND DOME.
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VERSITY OF ILLINOIS



General view rom the River.

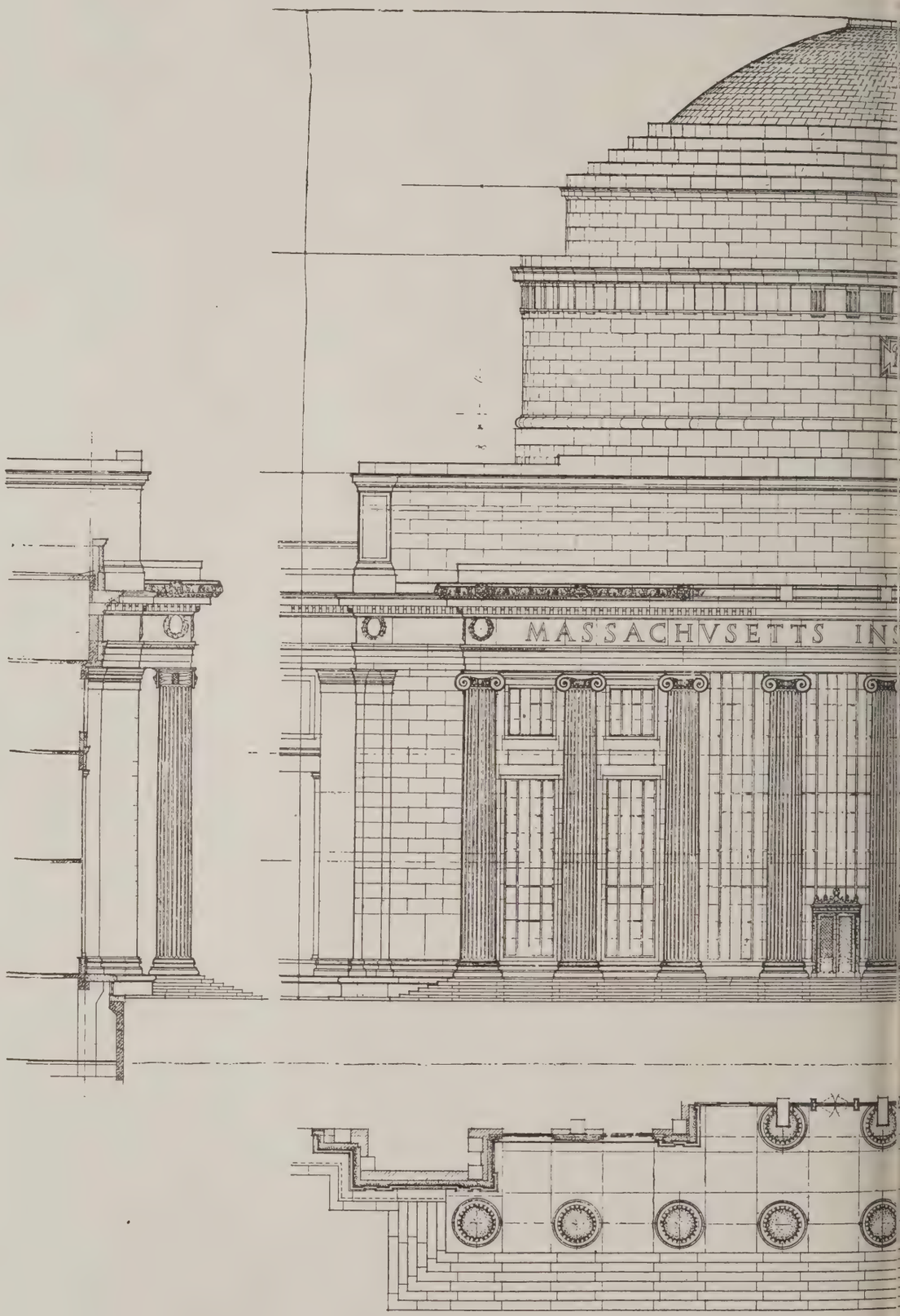


General view of Principal Court.

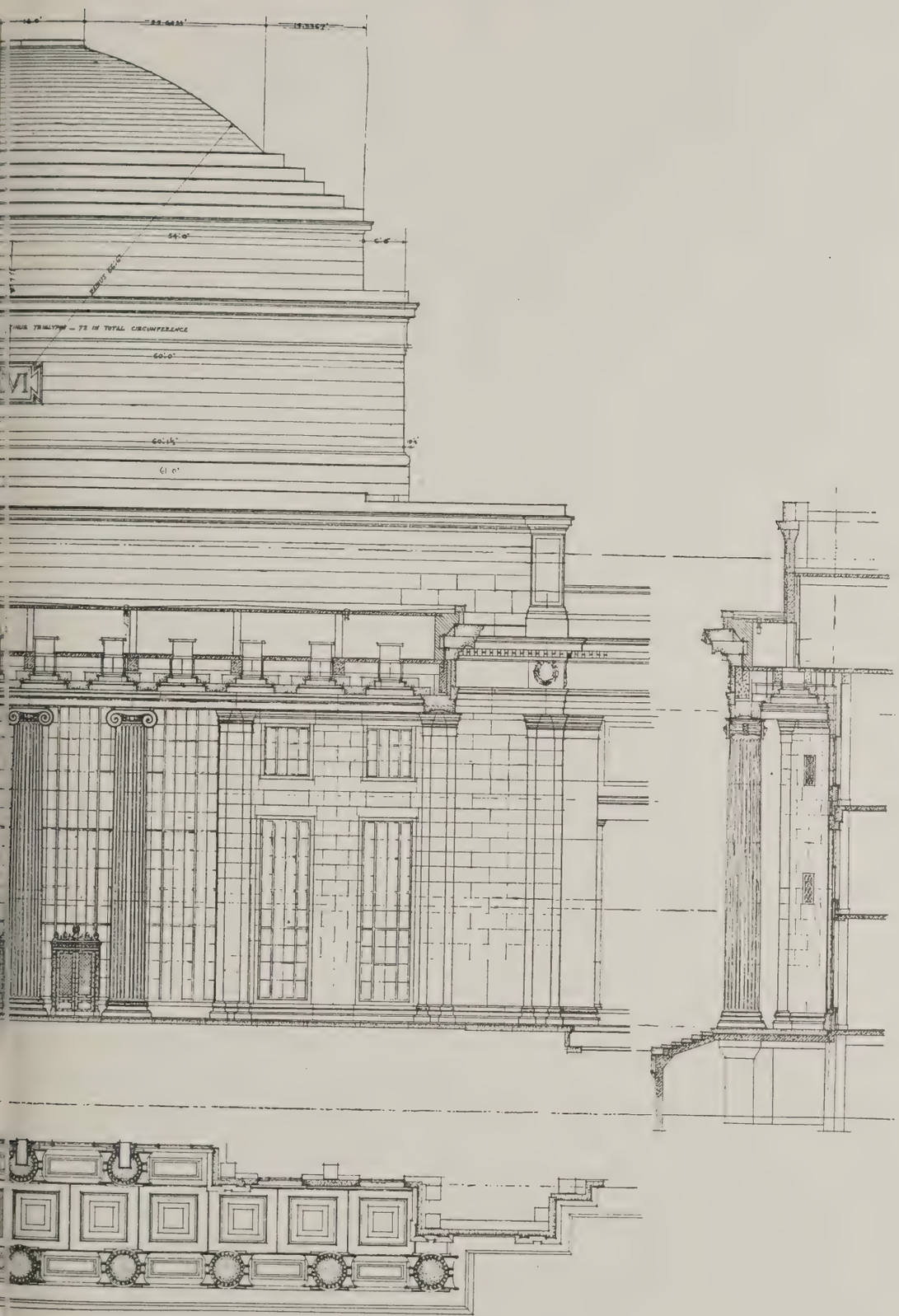
MODERN AMERICAN ARCHITECTURE (SERIES II.). VI.—NEW BUILDINGS FOR THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

WILLIAM WELLES BOSWORTH, ARCHITECT.

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ARCHITECTS' WORKING DRAWINGS (SERIES II.). XXX.—NEW BUILDINGS
ELEVATION OF MAIN PO
WILLIAM WELLES



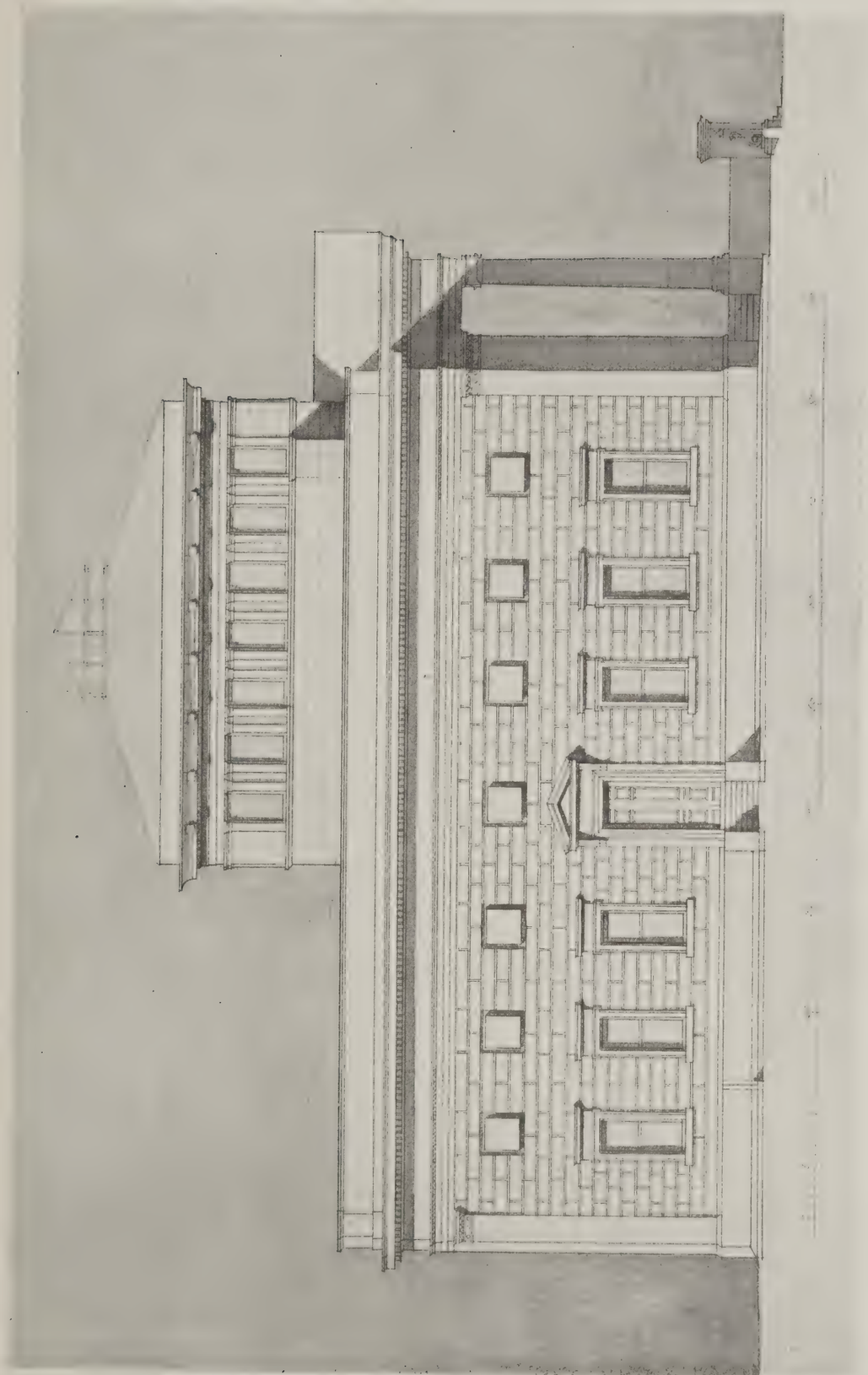
TE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS. :
NTRANCE, AND DOME.
H, ARCHITECT.



CURRENT ARCHITECTURE (SERIES III.). XLVIII.—WESTMINSTER CATHEDRAL: VIEW OF MAIN ENTRANCE DOORWAYS AND MOSAIC (BY R. ANNING BELL) IN TYMPANUM.

J. F. BENTLEY, ARCHITECT.

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STUDENTS' DRAWINGS (SERIES II.). XXX.—THE ART GALLERY, MANCHESTER: SIDE ELEVATION.

MEASURED AND DRAWN BY GORDON HEMM.

THE PLATES.

New Buildings for the Massachusetts Institute of Technology.

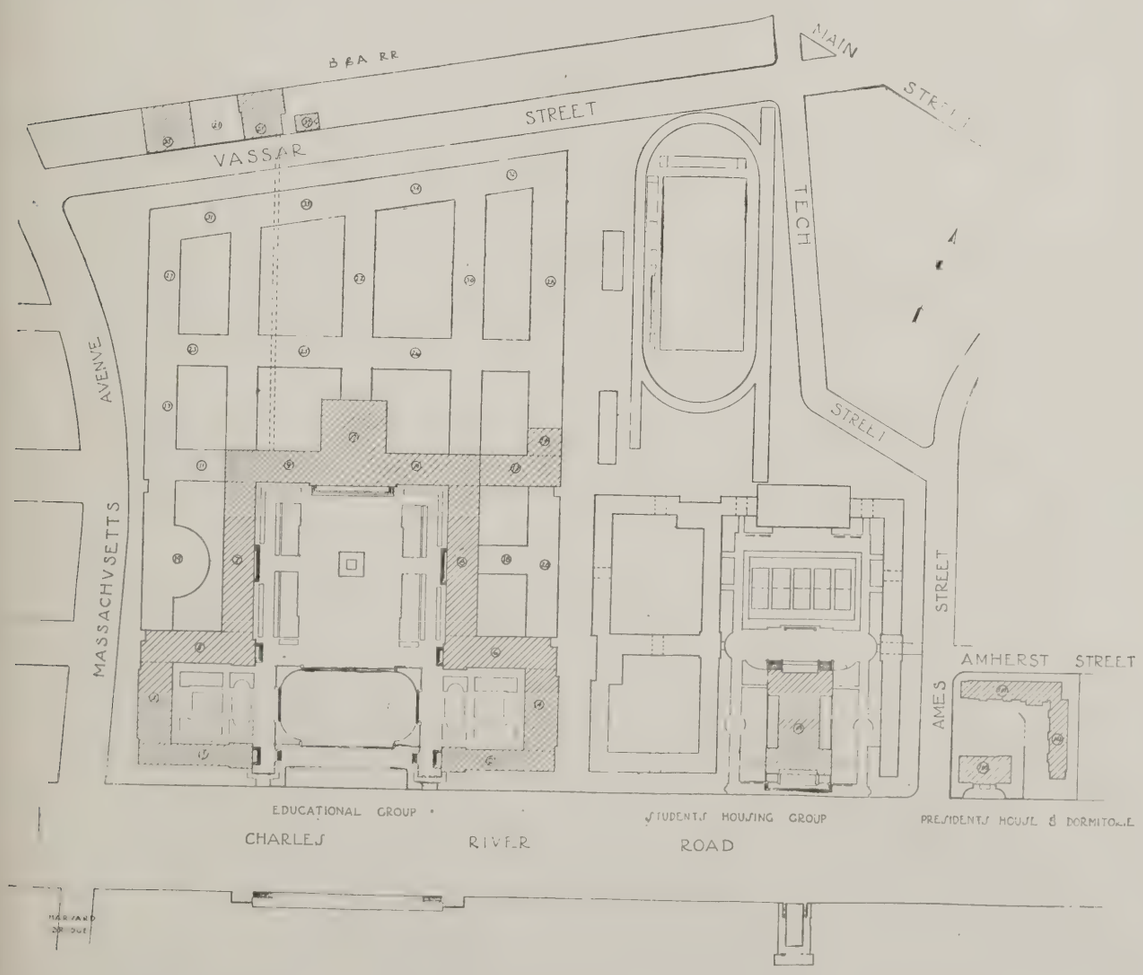
THE new buildings which have just been completed for the Massachusetts Institute of Technology are a remarkable architectural achievement, and on that account we propose to publish a series of plates, showing different parts of the group. We give two photographic views this week, together with a detail drawing of the central portico and dome, and a block plan. From these the magnificent scale and quality of the work will be at once realised. The buildings face the Charles River Basin and are arranged on two axes, instead of one, the main technological buildings being on the left and the residential buildings on the right. The entire scheme provides for no fewer than 2,000 students. A detailed description of the scheme will appear next week.

Main Entrance, Westminster Cathedral.

The very large tympanum over the main entrance to Westminster Cathedral, after having remained a blank of rough brickwork for many years, has now been filled with Mr. Anning Bell's mosaic. It is a very carefully executed piece of work, but fails essentially, we think, by reason of the selection of white for its background. This makes it stare out harshly from the surrounding brickwork, instead of mellowing with it. In fairness to the artist, however, we give the following notes by him: "In the first place, of course, the figures and their relative positions were settled by the Cathedral authorities. Then the question of the background was the next thing to be considered. I decided against a gold ground at once. Gold is not suitable to this climate, owing to the danger of the tesseræ being more liable to injury by frost than those of other colours. Also, I do not think a flat mass of gold out of doors is agreeable. Then it was a question of light figures against a dark ground—for example, blue—or a light background relieving darker figures. This latter I decided upon, as the silhouettes of the figures would always remain distinct, however discoloured and dim the background or the treatment of details on the figures might become. It might be said that light figures against a dark ground should also tell in the same way as simple forms, in spite of the accretion of dirt. But on further consideration it will be seen that the necessary shading, however simple, would naturally be at the edges of forms, and so tend to merge in time into the ground. I therefore relieved the figures against a very light ground, but I confidently expect that in not many years the tone of it will be very much lowered, and that any excess of contrast which may be felt at present by the critical will have disappeared. . . . The background is set strongly in cement, and the whole of the tesseræ are embedded in it, as well as those in the figures, in thin 'putty' (which is of different composition), so that there is as little chance as possible of water settling in the crevices, and injuring the work by freezing in cold weather. This treatment also may keep the surface a little cleaner looking as a whole, but of course it has been necessary to sacrifice the texture, which is sometimes valuable in interior work."

Manchester Art Gallery.

The side elevation of this building displays the same fine qualities as the front elevation. The treatment is severe without being frigid or dull.



NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY: BLOCK PLAN.

"LA CITÉ RECONSTITUÉE."

[SPECIALLY CONTRIBUTED BY H. BARTLE COX, A.R.I.B.A.]

IN France, after two years of War and despite present difficulties, it has been possible to organise a medium-sized exhibition called "La Cité Reconstituée," purporting to be of use to the State, to municipalities, and to individuals. Everybody knows that the War has occasioned devastations of immense proportions, including not only farms and villages but towns and cities, which will necessitate the rebuilding, under exceptional conditions, of every class of construction, from small private dwellings to large civic monuments, and the planning of towns in all aspects. "La Cité Reconstituée" will therefore be a many-sided problem: practical in its immediate necessity, and theoretical in its future import; or, technical in its application and social in its influence.

To meet this complicated problem, the Association Générale des Hygienistes et Techniciens Municipaux de France, together with all the leading architectural societies of the country, conceived the idea of a large exhibition at which manufacturers could show their systems, architects their projects, and at which lectures might be given and meetings held to put forth and discuss the best means of influencing and advising the various mayors and municipalities. The difficulty of carrying out such a scheme, however, in present circumstances proved a great barrier, and the scheme ultimately fell into the hands of the well-known exhibition organiser M. Edouard Tijou, the director of the Exposition Internationale des Arts du Travail which was held in the Grand Palais in 1912. The highest patronage was not withheld, and an excellent site was granted. On May 24 last, long before the exhibition was anything like complete, it was officially inaugurated by M. Raymond Poincaré, and now remains open to the public from 10 to 6 upon the payment of one franc. The patronage includes that of the President of the Republic and the Ministers for Commerce, Industry, Agriculture, the Interior, etc., with a *comité supérieur* of all the leading engineers and architects, with M. Léon Bourgeois as honorary president.

The site allotted to the exhibition is the Tuileries terrace and the Salle du Jeu de Paume at the corner of the Place de la Concorde and the Rue de Rivoli. The exhibitors pay for their space.

According to the catalogue, only quite recently published (*c'est la guerre!*), the exhibition is divided into four large groups, subdivided into twelve classes.

Those who visit the exhibition hoping to obtain an idea of the beauty of the future of France will be sadly disappointed. But in criticising it one should take into consideration, first, the difficulties the promoters have had to contend with by reason of the War, and, secondly, the essential nature of such an exhibition.

Dreadful as the devastation is in the North of France, it is not a question of rebuilding cities like Paris, Marseilles, or Bordeaux under a rich and powerful monarchy or a well-to-do and Utopian democracy, but rather a question of cheap and temporary constructions compatable with health and conflicting interests.

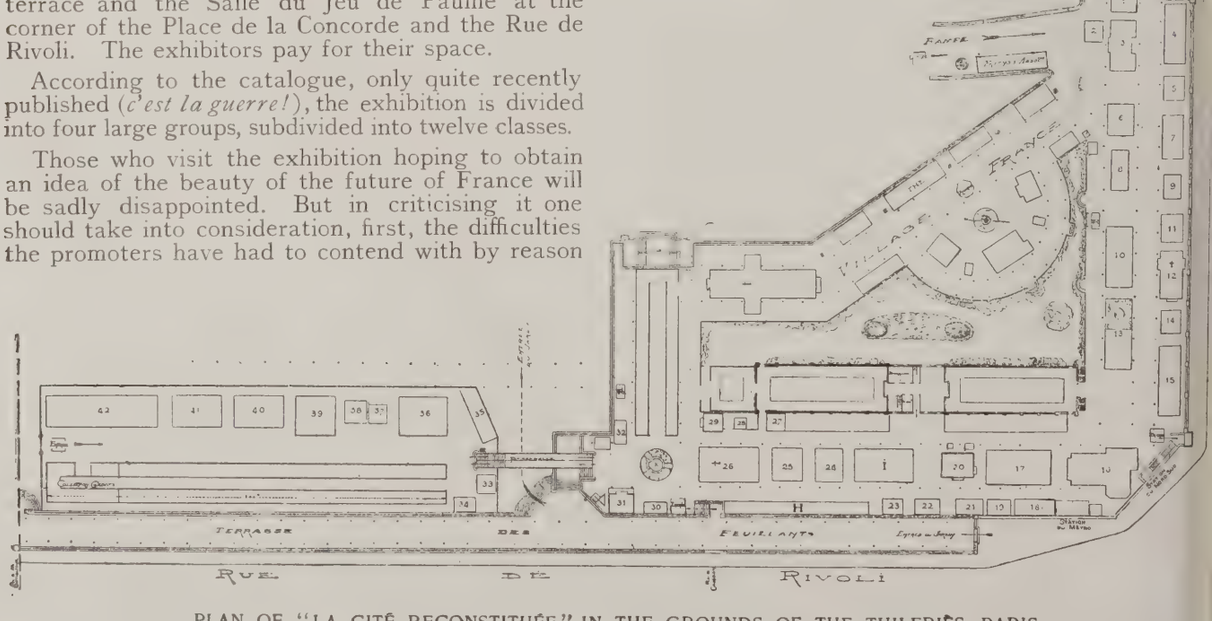
In reality "La Cité Reconstituée" is a money-making building trades' exhibition with a certain amount of town-planning ideals thrown in as flavouring.

The public is attracted by the announcement of forty or more actually constructed houses of all sorts, sizes, and conditions, varying in cost from 800 to 16,000 francs; and a model village with a town hall, church, post office, school, and shops etc., together with an orchestra which plays every afternoon on the village green surrounded with cafés where refreshments can be had at reasonable (?) prices. What more could be expected for one franc?

Engineers may be interested in some agricultural implements or refrigerating apparatus. Architects, in so far as they are artists, will feel as though they had lost at least 50 centimes. Diplomats and critics, who probably pay nothing for entrance, are not displeased with the thing as a whole, feeling that of course it is War time and that it may possibly be of some use in bringing about good reforms—besides we must admit that there are some very interesting attempts.

The town-planning veneer of "La Cité Reconstituée" is the most interesting part, though the least important, for no extra charge is made to attend the lectures organised to take place in the lecture hall of the Salle du Jeu de Paume.

Twelve big conferences have been arranged in three cycles. The first "L'Urbanisme," includes the names of M. L. Bonnier and M. M. Auburtin. The second, "Les Services Sociaux," includes among others the name of Professor Geddes, o



PLAN OF "LA CITÉ RECONSTITUÉE" IN THE GROUNDS OF THE TUILERIES, PARIS.

Edinburgh. The third, "L'Urbanisme appliqué à la Reconstruction des Cités Detruités," again includes the familiar name of Professor Geddes. In addition, arrangements have been made for lectures on hygiene and for conférences-promenades to deal with the questions of materials and methods of construction.

In the Salle du Jeu de Paume may be seen plans of projects for the reconstruction of different existing towns and the resurrection of several ancient cities, most of which are already too well known to the architectural world to need further comment.

Professor Geddes, who came from India to take part in the exhibition, has a highly interesting collection of drawings, maps, and photographs, etc., chiefly bearing on the social side of urbanism; his exhibit would have been even more complete but for the fact that his original collection was unfortunately sent to the bottom of the Indian Ocean in October, 1914, by the "Emden."

The exhibits of greatest moment are the temporary and portable structures, though the efficacy of the latter in being removable is doubtful, unless one should have occasion to transplant them fairly frequently. One building in particular deserves special attention. It is a house built upon military lines and adapted to domestic requirements. The carcass is of wood on the principle here illustrated. The invention is claimed to be that of Colonel Adrian and many thousands of these rapidly constructed, portable, and cheap buildings have already been erected for the Army; it is easily seen from the shape that the walls are well protected from the weather, and the construction is such that, though a light building, it can be erected in very exposed positions. The triangular parts are utilised inside for cupboards, coal-boxes, larders, etc. It is doubtful whether any more practical system has yet been devised. Additions can be easily made, the appearance of the exterior can be rendered quite agreeable, while the interior is cosy.

Another house which has attracted much attention is that designed by M. Sorel, a well-known architect of Paris. His house, however, is for a rich man, and as such has an interest somewhat apart from that of "La Cité Reconstituée."

As regards small buildings, one sees all sorts of systems, not a few with curious names; many are constructed with slabs of wood and concrete, etc.

Reinforced concrete buildings are in evidence, sometimes covered with stucco and strips of plaster darkened to represent half-timber work—all very wonderful to the eyes of the "petit bourgeois."

English firms are represented by several stands. The Quakers have a model house similar to that which they are now building in many parts of Northern France. Messrs. Humphreys, Ltd., of Knightsbridge, who have already erected a very considerable quantity of temporary work for the War Office, exhibit a model built on their usual lines. Among other English exhibitors are The Uberoid Co., Ltd., of Knightrider Street, London, E.C., and Messrs. Winget, Ltd., of Victoria Street, Westminster, who have a large stand showing machinery for turning out concrete blocks, etc., which will doubtless be extremely useful in the devastated regions, where the débris would serve for making the concrete.

Gas and Electricity have not been forgotten and small inventions such as "Calfator," for stopping the cracks of parquet floors in order to keep down vermin (from which we are told even the best regulated houses are not always exempt), are allotted a place.

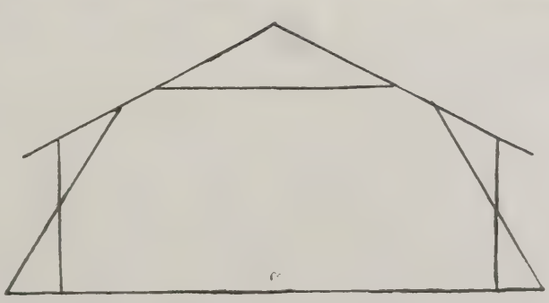
The village, grouped round the charming little statue (by Pech) of Charles Perrault (1628-1703),



CHURCH OF ST. JEAN, IN THE "VILLAGE FRANCE."







PORTABLE HOUSE ON MILITARY PRINCIPLE OF COL. ADRIAN.

the delightful author of "Puss-in-Boots," "Little Red Riding Hood," and "Cinderella," etc., is very interesting as a one-man show—that is to say, it is not the result of the deliberations of a well-chosen body of architects, but a set of ideas, offered to France, organised and carried out by an anonymous firm and constructed on the patented system of M. Charles Auguste Roux, civil engineer. The two chief buildings are the Post Office, which is in actual use and has been bought by the State, and the Church, a portable structure designed by M. Placide Thomas. This was inaugurated under the auspices of La Société de Saint-Jean on June 22, when M. René Bazin, of the Académie Française, gave a welcome speech. The church is plain, simple, and unaffected, well lighted and having a cheerful internal and external appearance; it would be about as cheap as a church could be, easily taken to pieces, and if the belfry were removed (it is quite independent) and the furniture were altered, the building could be used for other purposes, such as a meeting hall or a cinema.

Up to the present time it has been variously estimated that more than 3,500 churches and chapels have suffered by the War.

With an idea of keeping the public mind occupied with the building problems facing France, the Association Générale des Hygiénistes et Techniciens Municipaux are also publishing (at ten centimes) a weekly journal entitled "La Cité Reconstituée."

To have got an exhibition of this magnitude together during the heat of War and during the hostile occupation of ten departments of France shows that the country is not yet annihilated. The promoters claim it to be an exhibition of ideas, thereby hoping to influence people after the War to pay particular attention to hygiene and all other considerations contained in the word "Urbanism." It is not a philanthropic institution, nor was it organised by the Government, and in many ways it fails at present to do any very great service to the public at large; nevertheless, in its way, it has a certain interest. Occasionally State delegations visit the exhibition, though with what result it is difficult to say—probably to encourage.

On July 11 "La Cité Reconstituée" was visited by a municipal deputation from Dublin, headed by the Lord Mayor (the Right Hon. J. M. Gallagher), who, it is said, came to Paris to investigate the question of town reconstruction.

Something more might have been done with reference to cheap furniture for small houses, which has been a neglected art of the French for very many years past. In this direction there seems an opportunity for English manufacturers.

To the public the greatest disappointment in the exhibition is the unavoidable drawback that none of the exhibitors can give a definite after-War price; the question as to the supply of materials is also very obscure.

After the War the amount of building to be done is almost beyond conception, and undreamt-of opportunities will arise; consequently something ought to be organised to solicit the earnest attention of all diplomats with the object of bringing influence to bear upon municipalities in order to produce amenities for the people; but this will have a fairer chance of success when diplomats can give their undivided interest, when municipalities can be conveniently consulted, and when a greater number of firms can show what they are able to do.

It is then that the technical men will be back in the interior and will be able to devote their minds to "La Cité Reconstituée."

ALICK G. HORSNELL.

THE news that Alick G. Horsnell, 2nd Lieut. in the Suffolk Regiment, has been killed in action in France will be read with deep regret by all who knew him, for he might be counted among the most talented of the younger men, the men to be, and his death is a real loss to English architecture. Mr. Horsnell received his early training at Chelmsford, in the office of Mr. Frederic Chancellor, F.R.I.B.A., and afterwards came to London as assistant to Mr. Ernest Newton, A.R.A., P.R.I.B.A., with whom he worked for many years. "By his death," says Mr. Newton, in response to our request for a short appreciation, "we have lost one of the most brilliant and promising of our young architects. For some five or six years he worked with me in my office, and I had the highest opinion of his many gifts. He had real genius, an infinite capacity for work, strong individual views, and a clear sound judgment. Although still quite a young man, on the threshold of his career, he already had a marked influence on his contemporaries. He was a brilliant draughtsman and water-colour painter, but these gifts, which are a danger to so many, were used as aids only, and never tempted him to be content with what looked well on paper, unless he was satisfied that it reached the high standard of design which he set himself. It is quite certain that, had he not been called on to lay down his life for his country, there was an unusually brilliant career before him. I regret that the pressure on my time and energies at the present moment have not allowed me to deal as I should have liked with the memory of a man for whom I had the highest admiration, respect, and affection."

Mr. Horsnell won the Architectural Association travelling studentship in 1902, the Tite Prize of the Royal Institute of British Architects in 1906, and the Soane Medallion in 1910. He was one of the selected architects in the preliminary competition for the new Board of Trade offices, and just before the outbreak of War was the successful competitor in the competition for the new Town Hall at Middleton, Lancs. (his design, illustrated in our issue for August 26, 1914, being a very brilliant piece of work). He had commenced private practice earlier in the same year.

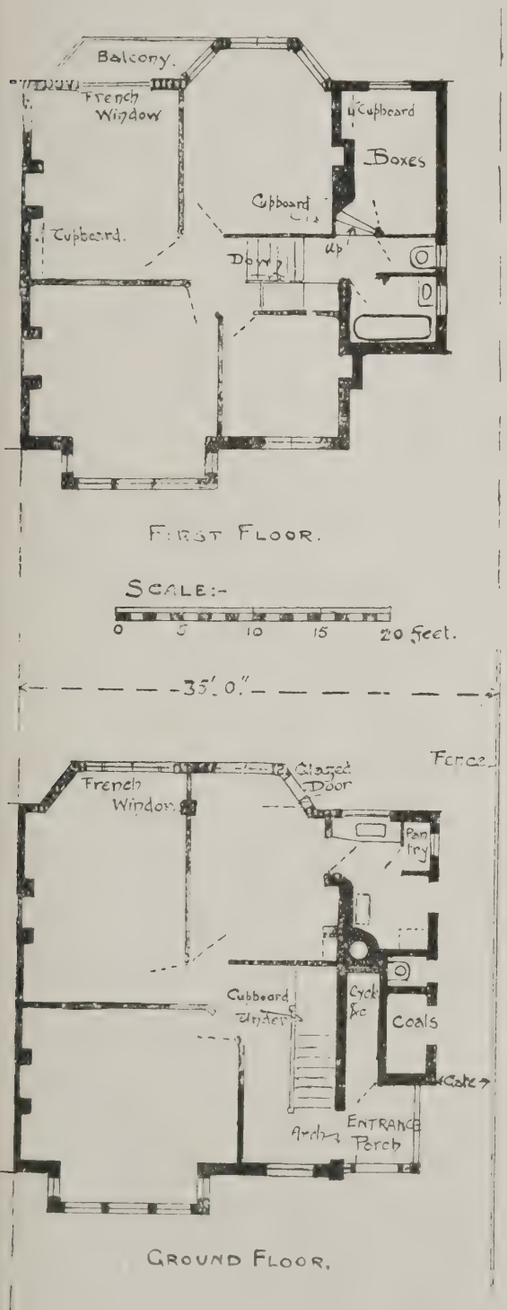
CORRESPONDENCE.

Small Houses of To-Morrow.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I have read with great pleasure Mr. Roberts's article in your issue for August 2, and am in agreement with most, if not all, of the author's views. It is well, perhaps, for me to mention at once that my interest in the matter is not professional, but purely domestic. Where I live a large estate is in course of development, and most of the houses are well planned and fairly commodious. Some of the front elevations are passable, but almost without exception the back elevations are ugly, and this latter fact has always been a bugbear to me. About five years ago, however, a new plan was produced which seemed to offer possibilities, and after a preliminary skirmish with the agent on the estate I decided to put my humble efforts into the modification of this plan, with the result that I secured more floor space and a fairly respectable elevation for the garden front. I then turned my attention to the interior with the idea of reducing labour of every kind, and to that end decided to convert the kitchen by installing a closed-in dresser and an inter-oven stove with h.p. boiler instead of the usually hideous coal-eating "kitchener." The result was a comfortable room

good enough for the family to use as a breakfast-room in the event of there being no "girl." I altered the scullery somewhat, enlarged the coal space, and added a w.c. downstairs. As will be seen from the accompanying plan, all of what I may term the unattractive part of housekeeping adjoins the side-way, and there is no unwelcome intrusion on the garden space. The original wall line of the kitchen was straight and a bay was projected from the "drawing-room." These lines I altered (see plan), thereby gaining floor space in both back rooms, particularly in the kitchen. On the angle of the latter I put a doorway into the garden which has proved to be a great convenience. The alteration of the wall line gave a considerable increase of floor space in the bedroom on the first floor by reason of the bay, whilst the adjoining room gained the advantage of a balcony over the room on the ground floor. The plan outline of the street front was practically left unaltered.



PLANS OF REMODELLED HOUSE.

Electricity being available, the house was wired for lighting and power, with wall plugs in all the ground-floor rooms and one on the first floor. Electricity is very economical in many ways, but its great advantage is its extreme portability and adaptability. The electric iron, for instance, is a boon to women.

The house is piped for gas fires, which, although not better in any respect than the open coal fires, are far more convenient, and, in the best types, little, if any, more expensive to use than coal.

I am in cordial agreement with your contributor's remarks respecting the height of rooms; it is certainly preferable to secure the necessary cubic space by floor area than by wall. I know quite well that many people are fascinated by the idea of a "lofty" room, but such a room can never be so artistically dressed as the comparatively low-pitched room.

If I could go back five years and re-commence the building of my small house there are some things that, in the light of experience, I would add and some that I would alter. I should, for example, provide a lavatory basin in every bedroom; at the time of building this would not have involved unreasonable expense, though it could hardly be done now. I would also provide a rainwater tank in the roof, adding a third supply tap to the bath and the lavatory basin in the bathroom.

I put these points forward simply with the view of promoting discussion of a very interesting topic.

A. J. BREWER.

The Light and Air Question.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I was interested in Mr. Quennell's article in your issue for August 2. I never quite understand why building operations here can be so hampered by these Laws of Light and Air when in a town the size of Aberdeen no such laws exist at all. At first sight it may appear that the lack of light and air restrictions such as you enjoy in London may permit of the erection of badly lit, dark, and insanitary dwellings, but in reality it is not so. The local by-laws have set a limit to the minimum amount of light and air which any building must have, the important difference being that the building owner in Scotland is required to provide these minimum requirements on his own land and is not entitled to draw them from the adjoining land at the expense of the adjoining owner, as in England.

I have been out of Scotland for many years now, and my information is not quite up to date, but perhaps this letter may be the means of inducing some Scottish architect to assist Mr. Quennell in the campaign which he is undertaking by throwing some light on how these things are arranged up North.

J. M. P.

THE CUPOLA ROOM, KENSINGTON PALACE.

William Kent was engaged on Kensington Palace between 1714 and 1727, his most noteworthy performances being the cupola room, the grand staircase painting, and the ceiling of the King's drawing-room. The cupola room, the most ambitious of his efforts, possesses a certain magnificence of a somewhat barbaric character, with its marbled walls and gilded statues in the niches. The illustration of it on page 83 is from Pyne's "Royal Residences," 1819.

NEWS ITEMS.

Estate of the late Mr. G. T. Hine.

The late Mr. G. T. Hine, F.R.I.B.A., of London, the well-known asylum architect, who died on April 15 last, has been proved at £47,922.

New Theatre at Chelmsford.

The new Regent Theatre on the Cross Keys site in Moulsham Street, Chelmsford, has been completed. Mr. F. Burdett Ward, of Wisbech, is the architect.

Wren House, Chichester.

This old house, one of the finest in Sussex, built from the designs of Sir Christopher Wren in 1696, and until recently the residence of the late Sir Arthur Fairbairn, has been acquired by the West Sussex County Council for offices at a cost of £5,500.

A New Y.M.C.A. Hut.

A new recreation hut and hostel for the use of soldiers and sailors has been erected by the Y.M.C.A. on a site at the north side of the British Museum, lent for the purpose by the Shakespeare Memorial Committee. The building and its equipment will cost about £7,500.

Mr. Raymond Unwin and the Rebuilding of Dublin.

Mr. Raymond Unwin, F.R.I.B.A., chief town-planning inspector of the Local Government Board, has been "lent" for the purpose of advising the Dublin Corporation in connection with the rebuilding of parts of the city.

With the Forces.

Among the architects serving with the Forces is Mr. C. H. Hignett, Licentiate R.I.B.A., of Letchworth. In July, 1915, he enlisted in the Army Service Corps, Motor Transport, and within three weeks was sent out to France, where he has been ever since. He is now attached to the Eleventh Corps, Heavy Artillery.

Cost of the Central Criminal Court.

A statement issued by the City Corporation shows a total expenditure of £380,690 on the Central Criminal Court, from 1901 to date. The cost of the site was £400,000, builders' contracts amounted to £306,880, and the outlay on designs, including architect's fees, was £23,202. The late Mr. E. W. Mountford, F.R.I.B.A. was the architect.

Painters' Rate of Wages.

The London Association of Master Decorators has agreed with the Painters' Union to pay a fixed rate of 10d. per hour to painters for the duration of the War and for a period of nine months after the declaration of peace. This rate is now in conformity with that paid by the London Master Builders' Association, and as demands not supported by the Painters' Union are being made by some of the men to obtain a further increase the London Association of Master Decorators ventures to ask the assistance of the trade in resisting these demands. Having now arrived at a flat rate of 10d. per hour for painters with the whole of the decorators and painters of London it is felt that it would be disastrous to again have two rates.

Memorial Flats.

In the Hampstead Garden Suburb there will be opened in the course of a few weeks a group of flats built by Sir Alfred Yarrow, Bart., "out of his great respect for, and in affectionate memory of his friend, Canon Barnett." The maisonnettes are intended for the widows of soldiers and sailors, preference being given to those having one or two young children. The building, which has been designed by Mr. John C. S. Souter, Licentiate R.I.B.A., is erected on high ground at the edge of the Oak Woods. The property is vested in Barnett House, Oxford, and the rents are fixed at 3s. 6d. to 4s. 6d. to exclude charity, as would have been in accordance with Canon Barnett's well-known views. At the same time these small tenements are meeting a very real need, and the balance is to furnish scholarships to be earned at the Institute, Hampstead Garden Suburb.

Canberra Competition Revived.

The Federal Cabinet has approved the resuscitation of the architectural designs competition for the Federal Parliament House at Canberra. Eight prizes ranging from £2,000 to £250 are offered, the total amount being £8,000. The designs must be submitted by the end of January next. The adjudicators appointed in connection with the competition are: Mr. George Pool, Australia; Sir John Burnet, Great Britain; Victor Laloux, France; Eliel Saarinen, Russia; and Louis Sullivan, America.

The Jointing of Drain Pipes.

It has been customary to use neat cement for jointing drain pipes, whereas if Pudloed cement and sand are used a saving of about 14s. to 15s. for each ton of cement is effected. It is stated that this latter method has been adopted on Lord Dunraven's sewerage scheme in County Kerry and on several other sewerage schemes. The makers of "Pudlo" (Messrs. Kerner-Greenwood and Co., King's Lynn) will be pleased to send particulars of this economical and much safer method of making sanitary pipe joints to any interested readers.

Bridge Built in a Day.

A staff of workmen on the Great North of Scotland Railway recently carried out a smart piece of reconstruction work, consisting of the removal and rebuilding of the bridge over the passenger subway at Buckie Station, which had been showing signs of decay and insecurity. The men set to work by the first streak of daylight on a Sunday morning. Both lines of rails were removed, and the bridge (of wood, stone, and concrete) was speedily demolished. Then the work of rebuilding was begun from materials previously assembled on the site. By nightfall the work was completed and both lines were ready for service.

Durham and Northumberland Archæological and Architectural Society.

At the first meeting for the season of the Durham and Northumberland Archæological and Architectural Society, held recently, visits were paid to Sherburn House, Pittington, and Houghton-le-Spring. The party, assembling at the Durham County Hospital gates, first went to Sherburn House, where the hospital and chapel were visited. The hospital was founded by Bishop Pudsey in 1181, and is now one of the most extensive charitable foundations in the county. The ancient gatehouse with stone vaulting, and the church with its three windows in the south wall characteristic of Pudsey's time, were objects of considerable interest. From Sherburn the members drove to Pittington Hallgarth, where they were shown over the Church of St. Lawrence, containing a Norman arcade of four bays of the eleventh century, similar to the work of the Galilee at Durham Cathedral. The tower arch was stated to be of the fourteenth century. At Houghton-le-Spring the party inspected the Church of St. Michael, an edifice which is principall of the thirteenth century, consist ing of nave chancel, two transepts, soutl porch, and tower. Much interest was take in two effigies and an altar tomb to Ber nard Gilpin, "the Apostle of the North. On the return to Durham, a brief sto was made at St. Giles' Church, a buildin founded by Bishop Flambard in 1112. I was explained that the north wall of th nave still remains, that the chancel is o Pudsey's period, and that the west windo was inserted by Bishop Langley in 1414.

OBITUARY.

The late Major Herbert Phillips Fletcher.

In our issue for August 9 we gave som particulars of Major Herbert Phillip Fletcher, F.R.I.B.A., F.S.I., A.M.I.C.E (Middlesex Hussars), attached to th Royal Flying Corps, who died o August 3 from injures received while o duty at Hounslow. The following ar some additional particulars:—At the ou break of war he went out with hi regiment to Egypt. He was then seconde to the French, and did reconnaissanc work in Asia Minor, Syria, and Arabia o French seaplanes for some months, an was awarded the Croix de Guerre, bot military and naval, for conspicuou bravery under fire. He was afterward the officer commanding a Britis Observers' School started at Port Saic and returned to England to take his pilot certificate for future work with the Roya Flying Corps. The late major wa educated at King's College, Londor where he gained the gold medal in th architectural and engineering course. H was a partner with Mr. Banister F Fletcher, F.R.I.B.A., F.S.I., in the firn of Messrs. Banister Fletcher and Son which firm was founded by the late Pro fessor Banister Fletcher more than fift years ago. He was also one of the sur veyors to the Board of Trade, an examine to His Majesty's Civil Service Commi sion, architect and surveyor to th Worshipful Company of Carpenter technical adviser to six of the associate City Companies and director of the Trades Training Schools in Great Titch field Street, W. He was also surveyor t the Justices of the Blackheath Division and was formerly a lecturer on the staff o King's College, London. He had travelle considerably in Europe, the Unite States, and Canada, and was sketchin in Spain with Mr. Seymour Luca R.A., when they were unfortunate enoug to be in the historic railway accident Burgos in 1891, these two being the onl Englishmen who survived the disaste though Major Fletcher had both leg broken and suffered other injuries. H was formerly deputy-master and join huntsman of the North Bucks Harrier and was fond of shooting, sailing, an golf. He lived at Park House, Marde Kent, and was a member of the Cavalr Pegasus, and various golf clubs.

Lieut. F. W. R. Turner.

Lieut. F. W. R. Turner, Royal En gineers, who has been killed in action, wa a son of Mr. James Turner, builder an contractor, of Cardiff. He was twent three years of age. He joined the Wels Horse at the outbreak of the War, and wa promoted sergeant. In February of la year he was given his commission. Prio to the War Lieut. Turner was engaged i the engineering section of his father firm.

TRADE AND CRAFT.

The Gas Boiler and the "Waste Heat" Fallacy.

It used to be a common belief that where coal range was consistently used for ooking the "waste heat," without any ldditional consumption of coal, was suffi-ent to enable the water boiler at the back the range to fulfil its proper function lequately. This idea is now pretty well xploded. Experience has shown that hen one and the same range is expected oth to cook the food and to heat the water ot only is the coal consumption very high, it the likelihood is that neither duty will satisfactorily performed. On the other ind, householders who have installed gas circulating" boilers for heating their ater have found that not only is the pply perfectly reliable and adequate, but so that their coal bill is appreciably re-ced, even though cooking goes on as fore—which disposes of the "waste-at" idea.

The average coal-range boiler is dmitted to have a very low efficiency, and ntinual stoking is needed if results are be at all satisfactory. Immediately gas introduced for water-heating, however, e difficulties both of labour and of ineffec-eness disappear, for the gas heater does t admit of any waste, by reason of its ermostat, or automatic regulating gas lve. This contrivance allows the gas to rn freely until the water reaches a cer-in pre-determined heat, and then cuts wn the gas supply until hot water is awn off and cold flows in from the main, hen the gas is automatically turned full again. This action is positive and failing.

Thermostats are generally adjusted so as shut down the gas supply at a tempera-re of 150 degrees Fahr.—that is, full sh-washing temperature. After this is ached the amount of gas burnt to main-n the heat of the water is known as the ut-down" consumption. This amount turally varies, but an average figure is ub. ft. of gas per hour for installations moderate size up to 10 cub. ft. for larger pliances, if the conditions are not very favourable. Allowing eight cut-down urs per day, it will be seen that, even th gas at 3s. per thousand, the cost of ping a good bulk of hot water always dy for use is quite low. In small uses, of course, the gas boiler is not ays kept on duty all day, being lighted required, but in larger houses the boiler be left with the gas alight, holding a re of high-temperature water always dy, for a comparatively trifling outlay ich secures a splendid return in comfort l convenience.

"Eye-Rest" in Co-operative Stores.

The growth of the co-operative move-nt during the last few years has been a king feature of our industrial life, and prosperity of the many co-operative ieties throughout the kingdom may be ged by the freedom with which money been forthcoming to erect palatial ldings for offices and retail department es.

What we believe is the largest store of kind in the northern area has lately been ted by the West Hartlepool Co-opera-Society. It is an imposing structure mounted by a tower, and occupying a minent corner site, its external appear-e and internal arrangement placing it he forefront of the commercial buildings he town. Mr. Ekins is the architect.

ts lighting equipment has been carried out on the most modern lines, and the British Thomson-Houston Company's "Eye-Rest" system has been adopted practically throughout the building. The lighting points number 530, and the wiring work was entrusted to Mr. Edgar Phillips, of West Hartlepool.

Much thought has been given to the illumination of the offices and of the large number of departments, in order that the most efficient results might be secured in each case. The lighting of offices, for example, calls for treatment quite different from that in showrooms or shops, while the illumination of goods in the show windows and in showcases affords scope for a great deal of ingenuity and the application of correct scientific principles.

That the "Eye-Rest" system meets every condition likely to exist in office and shop lighting is shown by the success of its application in the many departments of the West Hartlepool Society's premises.

A fine effect is produced in the wide expanse of show windows which form so prominent a feature of this building. These windows are lighted by standard Mazda lamps in conjunction with X-ray helmet-type reflectors. The reflectors are spaced at approximately 3 ft. centres and produce a soft and uniform light that brings out every detail in the window display. There is, of course, no glare, the light sources being concealed. Although there is ample illumination upon the goods displayed, no direct light is thrown either upwards or on to the pavement. When such a system is adopted, there is no need for outside lamps.

For the lighting of the haberdashery and other departments where a counter trade is conducted with articles of small size and various colours, "Eye-Rest" brass bowl fittings are employed, each containing six standard 60-watt "Mazda" lamps. These produce a well-diffused illumination of ample intensity and most agreeable quality for the transaction of business in comfort.

A novel feature is the lighting scheme in the mantle department. This department has a floor space measuring 70 ft. by 50 ft., and is equipped with fourteen "Eye-Rest" fittings with 24-in. brass bowls. These fittings constitute the general lighting, which has an average value of about 4 ft. candles. The novel feature is in connection with the show-cases, all of which are lighted independently by "X-ray" reflectors, countersunk in the top of the case, each reflector containing one 60-watt standard lamp. By this means the aricles of clothing exhibited are brought into prominence, all disagreeable shadow and glare being eliminated. For such a purpose the system employed is ideal, and gives more uniform illumination on the goods than could be secured by other forms of artificial lighting. The number of units varies with the size of the show-cases.

In the offices, which are of large size and elaborately fitted, the lighting is carried out with "Eye-Rest" bowl fittings each having one 200-watt lamp. The effect is most pleasing, while the illumination is evenly distributed, enabling clerical work, typing, and cash transactions to be executed promptly and effectively.

The board room, measuring 25 ft. by 35 ft., is panelled in dark oak, which presents some difficulty for satisfactory lighting. In this case excellent results have been secured by the use of "Eye-Rest" fittings and Mazda lamps. An average of 4 ft. candles is secured under these conditions, which speaks well for the efficiency of the system adopted.

Similar fittings, but of smaller size, are used in the café, which is provided for the use of customers. This department measures 40 ft. by 38 ft., and is lighted by four "Eye-Rest" brass bowls, each equipped with six 60-watt Mazda lamps. The average requirements for restaurant lighting is 2.5 ft. candles, and here, as in most of the departments, the estimated illumination has either been reached or exceeded.

Fitting-rooms in tailors' and dress-makers' shops are always difficult to light successfully. They are usually of small size, with mirrors on all sides, and they call for lighting that will be uniform, free from shadow, and also free from glare. Pendant fittings would be unsuitable unless ample head-room were available, for they would be liable to mechanical damage and might cause undesirable reflection in the mirrors. At the West Hartlepool Society's fitting rooms most satisfactory lighting has been secured by the use of a pair of two-light flambeaux "Eye-Rest" wall brackets, placed on opposite sides of the room, each fitted with two standard 40-watt lamps. The average illumination obtained is no less than 6 ft. candles—a high value, but not excessive for the special work of fitting clothing.

As a whole, the installation is one of the most complete and successful yet carried out by the British Thomson-Houston Co., Ltd., and is typical of the results that can be secured in practice with scientifically designed material and sound engineering knowledge and experience.

NEW PIERS AT NEW YORK.

The gates of the coffer-dam that has held back the waters of the Hudson River since the beginning of the work on the new 1,000 ft. piers at the foot of West Forty-Sixth Street, New York City, have been opened. These piers when completed will be the largest in the city, and will accommodate the largest Trans-atlantic steamships.

The dam was required to withstand a pressure of ninety tons per lineal foot, or a total pressure of 72,000 tons. Very unfavourable conditions were encountered at the outset of the work, for the bottom of the river consisted of rock under a thick layer of soft silt. To meet this condition and create a cutting floor 44 ft. below mean low water, sheet steel piles seventy feet long were driven without splicing. In all 7,600,000 lbs. of sheet steel were required, and it was necessary to back up the sheet pile water seal with a bank of riprap containing 2,430,000 cub. ft. of broken rock.

Work on the dam was begun in April, 1914. About 55,000,000 gallons of water were pumped out of the area enclosed, which covered five and a half acres. From behind the dam about 2,187,000 cub. ft. of rock were blasted and removed. For a coffer-dam of the self-supporting type the work far exceeds in height of dam, height of water head, and general dimensions any other work of its kind thus far undertaken. With the driving of two lines of piles and the filling of the cells with mud and clay the area relieved of water remained absolutely watertight for the whole fifteen months of exposure, no leakage whatever having taken place throughout the river face of the dam. When the dam has filled the piles will be withdrawn and the riprap dredged out. After that the work of building the superstructures will begin. When the work is completed there will be room for four 1,000 ft. piers. Very great care has been necessary throughout, but the result gives entire satisfaction.

LATE CONTRACTS, etc.

BUILDING.

August 28— **REBUILDING. Barry Dock.**—Altering and rebuilding of premises at Barry Dock for a Sailors' Institute. Plans and specifications can be seen, and quantities obtained at the office of J. Alfred Owen, Architect, Pembroke Chambers, Holton Road, Barry Dock. Deposit £1 1s.

August 28. — **REINSTATEMENT. Sheffield.**—Structural reinstatement after fire at the Technical School of Art, Arundel Street, for the Education Committee of the Corporation. Specification and form of tender may be obtained on application to the City Architect, Town Hall, Sheffield. (Any person or firm tendering will be required to comply with the fair wages and conditions of labour clause, and also the clause against assigning or subletting adopted by the Sheffield Corporation, copy of which may be obtained on application at the office of the City Architect.)



MISCELLANEOUS.

August 24. — **PLUMBERS' AND SMITHS' WORK, Devonport.**—Plumbers' and smiths' work for the half-year ending March 31, 1917, for the Guardians. Contractors must (if required) enter into a bond with two sufficient sureties for the due performance of their contracts.

August 29.—**TRACTOR. Leavesden (Herts).**—Supply and delivery to Leavesden Asylum, King's Langley, Herts, of one five-ton steam tractor and three six-ton trailers, for the Metropolitan Asylums Board. Particulars from Office of the Board, Embankment, E.C. Deposit £1.

August 29. — **METERS. Dublin.**—Supply of single-phase and three-phase meters for one year, for the Electricity Supply Committee. Particulars from City Electrical Engineer, Fleet Street, Dublin. Deposit £1 1s.

August 29. — **WHEELWRIGHTS' WORK. London, S.W.**—Execution of wheelwrights' work for six months from September 30, for the Lambeth Borough Council. Particulars from H. Edwards, C.E., Borough Engineer, Lambeth Town Hall, Brixton Hill, S.W.

August 31.—**REPAIRS. London, S.E.**—Repairs to plastering and other works at the Newington Institution, Westmoreland Road, S.E., for the Guardians of Southwark Union. Specification, general conditions of contract, and form of tender, may be obtained from A. Saxon Snell, F.R.I.B.A., of No. 9, Bentinck Street, Manchester Square, W.

September 6.—**MATERIALS. Aberdare.**—Supply of the following, for the Powell Duffryn Steam Coal Co., Ltd.: Bar and other iron and steel; bolts, nuts, and rivets; gunmetal fittings; indiarubber, asbestos, etc.; colliers' tools, etc.; ironmongery; steel girders, channels, rails, etc.; nails; steel; steel tubes and fittings; chains; timber; wire ropes; French pitwood; lime and cement; electrical goods. Particulars from Stores Manager, Aberaman Offices, near Aberdare.

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, August 30, 1916. Volume XLIV. No. 1130.



CLEOPATRA'S BARGE.

(From a water-colour drawing by A. C. Conrade.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

AUGUST 30, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1130.

EDITORIAL.

THOUGH the War is our immediate interest, and though the end is by no means in sight yet, it is not inopportune even now to consider what is going to happen after the War, and more particularly to formulate some definite plan for dealing with the very difficult and complex problems that are bound to arise. Essentially it is a Government matter, because only by some sort of Government action can the problems be effectively solved, but meanwhile it is interesting to hear the views of those, outside the Government, who have special qualifications for speaking on this subject. Mr. Sidney Webb, well known for his investigations into social conditions, is in such a position, and in the columns of the "Daily News" he has described what he thinks will be the state of affairs during the years immediately succeeding Peace. The whole matter is necessarily speculative, but Mr. Webb's line of argument seems to us to be perfectly logical, and we are sure that the suggestions he puts forward will receive careful attention by those who are best in a position to give practical effect to them.

* * * *

After the War there will be some millions of people, men and women, disbanded from the Army, from the munition factories, and from kindred war industries, and this huge body of workers will be thrown back on their own resources. The idea that trade in general will "absorb" them automatically is a wholly fallacious idea, because there will be all kinds of unequal developments, a slump in this place and a boom in that, and arrangements like the Labour Exchanges, which dealt very well with things under pre-War conditions, will have to be largely extended and remodelled to cope with this immense body of workless workers, otherwise the most colossal distress will be created, and we shall have all manner of social disturbances. Mr. Webb's belief is that slumps will occur not only in the "war trades," but also in all the diverse industries that have been producing substitutes for the things that we could not get during the War, and on the other hand there will be local booms at the ports which have been closed to Continental traffic, and in towns where trades are quickly reviving. "The industries repairing War damage will become suddenly busy. The shipbuilding yards will go on working continuously at their fullest strength for the next few years at least. The world-scarcity of warm clothing will long keep the woollen and worsted industries occupied. The makers of marine engines, of agricultural machinery, of automobiles and of sewing machines and many other engineering mechanics, will be in demand. The devastated areas all over Europe will require iron rails, bridges, rolling stock, and every kind of ra way equipment; they will need every builde requisite and all sorts of raw material."

* * * *

From the point of view of the building indust undoubtedly the main interest will be centred housing, though of course there will also be a lar bulk of new buildings for commercial purpos which were stopped by the War and which will ne to be carried out with the utmost speed; all this addition to questions of production in buildi trades industries for use abroad, in the reconstru tion of Belgium and France. Mr. Webb, going the assumption that by the end of the War we sh be left with a ten years' shortage in town a country housing, suggests that local authorities w have to get a free Government grant of a substant amount in order to provide the houses that will needed. He says: "What ought now to be done for the Local Government Board to put pressure all the local authorities, urban and rural, to sec sites and at once prepare plans for cottages, up a possible total expenditure even of a couple hundred million pounds, so as to enable as many a million cottages, if need be, to be put in hand the very morrow of the Declaration of Peace; a to be proceeded with in batches, quickly or slow according as the Board of Trade report unempl ment to be setting in. Conditional on these prepa tions being now made by the local authority, Government might renew its promise of free gra in aid of the capital cost so as to make the ent prise involve, with rents deemed 'reasonable' the locality, no charge on the rates. In no other w are we likely to get the workers decently housed.

* * * *

It is more than curious to read in the newspap that five skilled Austrian workmen have rece been expelled from the large new building for t Australian Commonwealth which is be erected in the Strand from designs by Mess Marshall Mackenzie and Son. It appears that th men, who are metal workers, represented th selves to be Czechs. When, however, one of th observed ingenuously that he had been interned eight months and released, former suspicions w brought to a head, and the British workmen on job very properly refused there and then to c tinue in company with these aliens. On being that they would no longer be required, the so-ca Czechs attempted to make an address to other men, but got no further than "Gentleme being then unceremoniously ordered to leave. recent years the British workman has not b backward in "downing tools," and we have o

l occasion to criticise his action adversely, but the present circumstances he has our whole-hearted support. It is not likely that he is going to work side by side with men of a nation who are his enemies, and the only surprising thing about the whole matter is that these five Austrians should ever have been allowed to work on the building in such a barefaced way.

* * * *

Very properly, under the Defence of the Realm Act, it is not permissible, without authority, to photograph and sketch in prohibited areas. There has been too much licence of this kind in the past, the result of which we may be sure that German officers have taken very complete records of all our chief points of defence. To-day one must go warily with camera or pencil. The Yarmouth magistrates, we see, have just had before them the case of a builder of Saxmundham, charged with "having in his possession without lawful authority or excuse a sketch, plan, or representation of a harbour situated within a certain prohibited area, calculated to be, or which might be, directly or indirectly useful to the enemy." On behalf of the defendant it was explained that he was a most patriotic citizen who had lived nearly the whole of his life in Saxmundham; Saxmundham, in fact, was "electrified" when they heard of his arrest. It appears that after the Zeppelin raid in the Eastern counties the defendant, meeting his son, made a sketch to show where the bombs fell, and he had carried this sketch about with him in order to show certain property that had narrowly escaped being damaged. He also made a similar sketch of another raid. It was explained that he was a man of few words, and when he wanted to say anything he often did so by means of a sketch rather than by speech. He was always collecting information, and this was how he came to be in possession of various documents that were found upon him. The discovery of the documents happened thus. He went to Yarmouth for a "row" at the seaside, and while on the pier his habit of collecting information caused him to make a sketch and a few notes, "and being a builder and purchaser of timber he was particularly interested in the timber ships going up and down the Roads," using a pair of field glasses to observe the ships. In the end he got taken to the guard-room on the pier, and from there to the Commandant's office. The various sketches which he carried about with him were disclosed, and so, by the customary process, he was brought before the magistrates, who, while expressing the belief that "the plan was only in defendant's possession with the idea of its eventually falling into the hands of the enemy," were unanimously of opinion that this Saxmundham builder had broken the law, and they fined him £20, or two months' imprisonment! Architects and builders therefore should take warning.

* * * *

The speculation as to what will happen after the close of the present tremendous conflict is so intensely interesting that attention is at once arrested by every new phase that is presented for consideration. We may wonder, for instance, what is going to happen to all those young architects when they—or such of them as survive—return home, for it is certain that many of them, in common with thousands of other men, will not have a place for the familiar office conditions. But there is one speculation which is of far wider import than this. It concerns the material and the spiritual outlooks on life, and may be summarised in the question, "Will there be, after the War, a great development of materialism or a recrudescence of spirituality?" And this is no ethical question for polite consideration in a debating society. It has a very direct relation to the everyday work of the whole nation. If the future is to be essentially concerned with materialistic things, its whole outlook being concentrated on production and wages, then we shall see a preponderance of effort in the erection of factories, works, and kindred buildings of commerce. If, on the other hand, or even side by side with a material outlook, there should be a recrudescence of spirituality, then we shall see a new era of church building, and it is in this latter connection that there might conceivably be another Gothic Revival. The whole matter is necessarily speculative, but it is none the less worthy of consideration on that account.

* * * *

The suggestion is made by the London "Evening News" that classes should be provided to teach householders how to carry out "little repairs," so that they might be able to deal with such things as refractory water taps, and would not be affrighted by the domestic tragedy of a burst pipe. "A property owner of thirty years' experience" says that amateur attempts at painting, papering, etc., are of no use without instruction, and tells of the desperate efforts of many a householder to effect even the replacing of a tap washer. The County Council is therefore advised to take the matter up. For our own part, we think such instruction would perhaps lead to even direr results. It would prove, we think, but another illustration of the adage that "a little leaning is a dangerous thing," for how could an ordinary unskilled member of the public expect to learn in a few lessons what a technical workman takes months and sometimes years to do efficiently? Ordinary house painting, for instance, is not the easy thing it appears, and papering is equally difficult to do in a workmanlike manner, while as for the water and the gas services, these are easily capable of leading to calamity when treated by the amateur, even though he had acquired a smattering of experience in a County Council class. It appears to us, therefore, far better to leave matters as they stand—with the trained man within call when his services are required.

* * * *

A correspondence has been going on in the columns of the "Times" concerning the use of the cathedrals by the public. On the one hand it is contended that the public should be allowed to wander as they wish, free from all restrictions and the attentions of vergers and guides, and in this way they would assimilate the underlying beauty of the architecture. On the other hand this idea is wholly scouted, the Dean of Norwich observing that "most of the visitors who come to cathedrals now are soldiers stationed in the place or convalescent wounded from neighbouring hospitals; and it is our experience that they do not find the church 'speak to their spirit' without some interpretation. What they look for is a sketch of the history illustrated by the changes in style," and he goes on to tell of a Canadian who, after being shown round Norwich Cathedral, said he had had the time of his life. The Dean, we think, is right. Architecture may not be the more inspiring for having tags to it—"this was built in the thirteenth century," and so forth—but certainly so far as the general public are concerned the interest in any great building can be vastly increased by the intelligent explanation of its character and its chief features, however irritating all this might be to the artist already well informed in the matter.

HERE AND THERE.

VASARI, writing the lives of his artist compatriots, had a habit of beginning with some moral reflections. "How horrid a thing is envy among artists" is one of his opening sentences. And taking that for my cue I might now enter upon some prefatory remarks concerning the evil and the good that go to make up an architect or a builder. It would, however, be all quite futile, for I am about to quote the words of "Goban Saor," an ecclesiastic writing in the "Irish Ecclesiastical Record," and, according to him, no particle of good can be found in the architects and builders of Ireland. The picture he paints is one of unrelieved gloom. Let him proceed by himself.

* * * *

First, citing a typical case, he says: "The architect was a weak blockhead and the builder an army contractor. The architect refused to give the priest-builder a copy of the specification—hence the chancel arch! The wary builder knew his friend and his weakness and ignorance of practical building, and he set himself to make money, and he did it with a vengeance. The foundations were laid on a soft deposit, locally known as 'sleech.' This stuff necessitates very strong and long pile work, with strong cross timbers and concrete, to carry the immense load of church wall masonry. The man of plans, knowing nothing about the deposit or the piling, left all to the army contractor, and the church's foundation is one cause of its premature senile decay. The local stone is quite porous. A child would know that. A bucket of water and a weighing balance would have shown the architect its defect. At that time the stone tests of attrition, abrasion, and impact were not known. But the army man did not care; the quarry was near at hand and cheap, and he could talk Mr. Pecksniff, the architect, into anything. The church was lined with brick—such brick, eye never beheld before. But the masons built the brick tight up to the stone wall, and Pecksniff was silent, although every schoolboy knows that error of building construction. These men were both of the faith they insulted and plundered. Both have gone on gaily since—although separately—and their modern ruins stud the land. What remedy has the priest? No remedy, I fear. The law is clear on the point of final certificates and architects' decisions: 'If you employ an architect who does not know his business and who certifies that he is satisfied when he ought not to express satisfaction, you must be bound by his mistakes.'

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"Every diocese in Ireland is adorned with gems of architecture such as I describe. Take a motor trip from Fair Head in Antrim to Mizen Head in Cork, and from Slyne Head in Galway to Howth Head in Dublin, and you find ninety per cent. of the Catholic churches—particularly the new Gothic ones—showing big signs of dampness and decay. In fact, the sanctuary in nearly every church is 'studded,' i.e., the damp, decaying, eyesore wall is covered with lath and plaster, and left to decay in its insanitary state. Is all this the fault of the poor people who subscribe their pounds, shillings, and pence? Is it the fault of the priest-builder? No, it is the fault of the architects and builders. Their first thought should be a solid, dry, substantial building, whose note should be *permanence*. It is not given to all to read the full meaning of an architect's drawings or to translate (in imagination) into stone and mortar the lines drawn on paper. To help in such understanding and translation, the German students of the Charlottenburg School of Architecture take a three years' course in solid geometry of three dimensions. We have not that opportunity in this island, none of our architects have such a training, and hence it is not until the work is sufficiently advanced to tell its own story and display its nakedness or unsuitableness that the priest and his committee see their lasting and irreparable mistake. The priest-builder and his flock work for the greater glory of God. God's greater glory is secured only and always in the fullest spirit of sacrifice. In church building this is done not only by generous contributions, but by a modest deference to the views of others, by which harmony and effectiveness of building committees are secured. Sometimes the priest-builder, acting as chairman of committee, takes over the whole business to himself. He becomes captain, steward, purser, mate, crew. The I-am-Sir-Oracle-let-no-dog-bark method of business is obsolete, and it never, never tended *ad majorem Dei gloriam*. Vast expenditure is not an essential of this service. On the contrary there are amongst us many examples of church building where the goal is reached by the most rigid economy. There is one golden rule, and it is: everything—be it costly, be it modest, be it cheap—shall be of the best that available money can buy or available taste select.

* * * *

"The best builder is he who has skill for permanence, economically. The *best builder* is not necessarily the man who has 'built a schoolhouse for nuns; nor is he necessarily the best man who has an uncle a Canon or a brother a County Councillor. The *best architect* is he who has the skill of design and the power of direction to the same end. Architects abound. The crop of younger men who lack education, training, and taste is immense. Gone for ever is the school of Pugin, M'Carthy, Goldie, Burgess. Their Gothics were copied and imitated until nearly everyone loathes the Goths and the Gothics. The study of church building, the great source of architects' incomes—for some the only source—has been long neglected by most Irish architects. Anything is good enough for priests and nuns. They are good paying and good easily gulled people. The pious creatures trust overmuch in human nature, in the knowledge and judgment of the architect, and in the honesty of the builders. And hence thousands of pounds of hard-earned money, the pennies of the poor, are spent to build churches and convents such as I describe above. But a critic says: 'Do not other professions make mistakes?' Yes, certainly. 'The just man falls seven times daily'; priests, doctors, lawyers, make mistakes, but the most glaring, awful, hideous mistakes are those of the architect. When Lord Houghton asked young Cave why he abandoned the practice of his profession of architecture, after a superior training and brilliant start, to take up the study and practice of medicine, Cave wisely and wittily replied: 'In medicine I bury my failures. In architecture my failures and blunders are everlasting.' Shakespeare said: 'Men's evil actions live in brass, Their virtues we write in water.' And so it is with architects in Ireland. We see their sins and blunders more plainly than we see the sins and blunders of priests, doctors, or lawyers. We have to live in the damp, cold, bleak, draughty houses. Their faults stare us daily. We see the churches and the colleges and the convent schools where people, priests, and nuns spend hours daily.

* * * *

"Let it not be understood that there are not some good architects in Ireland. There are about a dozen. But very often the good men are shouldered out by the charlatans, who give to priest-builders and nun-builders old worn-out designs, sometimes unworkable and bought second-hand from some

ndon 'ghost.' For 'No compulsory examination, diploma or professional certificate of any kind is essary to entitle a person to call himself an hitect or to practise in any of the capacities or recover fees. In this respect they are unlike citors or doctors.' In other words, architects e no charter, and no architect society is able to press or punish the incompetent, the fraudulent, the pure charlatan. . . . The architects alone e real and unlimited Home Rule—in fact, almost rchy. In 1888 they made an attempt at getting ill passed in Parliament to grant them a charter, l they failed. Hence the crowd of incompetents , from some lectures at a night school and the of a few text-books and a 'ghost,' have left and studded with monstrosities and modern is."

* * * *

o much for the architects. Now for "Goban r" on builders: "Builders are, of all the men in ation, the most difficult to deal with. If a priest ct an able, experienced architect he generally no bother with the builder. But if he choose a khead, the builder knows his man, sees the ing omissions in the plans and specifications, incompatibles, the unworkable details, the ue, undefined, go-as-you-please style of work- the antiquated, unpractical text-bookiness, and ce those long lists of extras (not additions, se, reader). Things work out this way: 'You, dear Mr. Builder, supply my omissions, and s over, as well and as smoothly as you can, my r defects of planning, construction, and ification, and I'll skip this and this and this in inspection.' This style of man produces sneer- foremen and 'laughing-at-his-reverence' enters and masons on church work. When the ders' men are kept waiting for days for details rawings, when no human eye or hand can make plates from drawings supplied, when doors le to scale from drawings do not fit in with ification or the openings, when from a small ntity of roofing material on the ground the itect of an important church certifies 'all ect' and the villa builder roofs the church with —all such blunders are paid for *by the priest-der*, and the builder is never at a loss. Remem- a church-builder is never at a loss. The extras additions at his own figures keep him safe."

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his, as the reader will see, is all good downright , and "Goban Saor" is therefore interesting. architects and his builders are beyond the pale, t of men steeped in iniquity. Just a bare dozen itects in all Ireland may be admitted as worthy, he does not give us even that small number from builders. It is a very sad tale then. But what the truth of this indictment? The "Irish der" stands up to reply. It is, no doubt, Mr. er who speaks. He admits that "it is unhappily too true that the architectural profession in nd, as a whole, has not attained the standard ducation and culture, either artistic or general, its very important functions demand"; also "the architectural profession is, more than others, completely the prey of adventurers, id of any professional training in the true e"; also that "the architecture of the past years in Ireland is, on the whole, and with ble exceptions, a discredit to the taste of the n—largely attributable to the attitude of those have had the dispensing of patronage." But contends that it is absurd to suppose that ons are helpless and without alternative. ere are quite a number of architects in the try who are capable of good, honest, and respectable, if not always brilliant, work. A few of them receive a certain share of patronage; others languish for lack of appreciation, their talents deteriorating for want of opportunity and practice. While as for the profession of architecture being a source of lucrative income, the facts show that the number of architects who have in modern times died leaving anything beyond the very smallest competence is strangely small. The majority of even successful architects have made far less pecuniary profit out of their commissions than would readily be believed." So that "Goban Saor" has an answer to some of his charges. But it must be admitted that he says some very strong things about Irish architects and builders. I have always understood, however, that some equally strong charges could be brought against the priests of Ireland. So "let him who is without blemish cast the first stone." But whatever may be precisely true and whatever may be wholly exaggerated in his indictment, we must at least be grateful for the entertainment "Goban Saor" gives us with his pen.

UBIQUE.

NEW YORK'S LATIN QUARTER.

IN New York there is of course a Latin Quarter. It lies, by the shortest reckoning, some six miles from where most people would place it. Nine citizens out of ten, if you said Latin Quarter to them, would stare a moment and remark, "Oh, yes, Washington Square," and recommend the Sixth Avenue "L." Now, the Sixth Avenue "L" is right enough, but instead of getting off at Bleecker Street or Eighth Street, you continue north for twenty-two minutes by schedule. For what your informant has in mind is Bohemia and Miss Geraldine Farrar, or Trilby, if he is old enough; the garret studios where youth and the dream of art make light of starvation and the charcoal-man, the Quatz Arts ball, the cafés, the dance halls. Our New York equivalent for that is undoubtedly Washington Square, with its studios—though the garrets are missing—its social and artistic heresies, and the flavour of foreign eating-houses. But that is not the Latin Quarter.

Our own Latin Quarter is not around Washington Square, but on Morningside Heights. Its dominating figure is not Mr. Robert Henri, or whoever may be the present head of the Newest School, but Dr. Nicholas Murray Butler. In a district of not much more than one-fifth of a square mile you find all the requisites of a Latin Quarter in the precise historical sense I have set down. It is an area of which fully two-thirds are given up to public buildings—educational, religious, and eleemosynary. It has all the necessary furnishings to make not merely a satisfactory parallel with Paris, but an astonishingly complete parallel. It has a great university, very nearly the most populous in the country. It has the seminaries of two theological creeds, of which one is the richest and largest plant of its kind in the country. It has the country's greatest cathedral, which will also be the country's most beautiful cathedral if the architects ever decide what it will look like. It has a great hospital, St. Luke's, which, for many years to come, seems destined to overtop the cathedral across the street. For the Panthéon, near the Seine, it has our greatest commemorative monument after the Washington obelisk on the Potomac—the Tomb on Riverside Drive. For the gardens of the Luxembourg it has two park belts, which are also its boundaries, Morningside on the east and Riverside on the west, so that on Academic Heights a heavy stream of erudition, piety, and charity flows between solid banks of verdure. For a match to the Seine it has the Hudson.—From "Academic Heights," by Simeon Strunsky, in "Harper's Magazine" for July.

THE PLATES.

Massachusetts Institute of Technology.

THE double-page plate shows a detail of the main entrance to the new buildings for the Massachusetts Institute of Technology, some views of which example of modern American architecture were published in our issue for last week. The brief description of the scheme already given may now be supplemented by the following particulars: The problem to solve was to accommodate, with conveniently interrelated departments, 2,000 students, with a scheme of plan adapted to a possible expansion to at least double that number, without disturbing the accessibility of one department from another. Grouping the buildings about one symmetrical axis, with dormitories, students' social centre, gymnasium, athletic field, etc., separated by the academic group, was found to be undesirable. Therefore, as a type of composition, a court scheme was adopted, comprising one principal court, and two smaller lateral courts in the front plane, and an indefinite number of minor interior courts at the rear.

The architectural scheme of façades may be summed up as consisting of two Orders—a minor and a major Order, in Greek Ionic style. The minor Order on the river front and in the lateral courts leads up to the major Order, which is one-third taller, in the main court. It is also carried through in the reveals of the main court openings, to unify the composition. The points of transition, at the intersection of the courts, are accented by pavilions having stepped roofs. These corner motifs are enriched with columned porticos on their main court façades, the columns being recalled at the entrances of the minor courts on the principal transverse axis. An attic storey, of square windows, surmounting the minor Order, ties through into the upper storey of the main court Order, while the cornice and skylines lift the effect toward the attic above the central portico beneath the dome. These skylines are all curved to produce freedom of line and to correct aerial perspective, following out the theories revived by Professor William H. Goodyear of the Brooklyn Institute. The columns of the main portico are also set on a forward curve in plan. There are no arches in the architectural scheme. Many studies were made with arches in the pavilions and entrances, but they were abandoned as being out of keeping with the column and lintel motifs. The intention was to adhere to a character of detail so permanent in type that a few years of existence would not suffice to definitely identify it with the present day, and thus appear "out of date" in a subsequent epoch. The Greek Ionic seemed most likely to realise this ideal. As to ornamentation, it was deemed appropriate to omit all carving, excepting only the cyma over the main portico, and to rely upon the effect of lettering, dentils, mouldings, and the volutes of capitals to refine the scale.

The uses of the interior were expressed upon the façades as far as seemed possible to harmonise them with unity of composition. The window openings in relation to the lighting of the rooms were studied to bring them close to the ceilings. This requisite made it desirable, for the sake of simplification of spots and greater scale, to group the ground- and first-floor windows together, blackened glass being carried across the intervening floor thicknesses.

The buildings are of reinforced concrete frame construction faced with Indiana blue limestone, including the entire dome. The dome was originally planned to cover a large assembly hall, but investigation disclosed the fact that such a ha would only be required once or twice a year and proper economy of space demanded that this are should be made to serve in part for the library, wit lecture halls and laboratories beneath. Hence th absence of the traditional grand staircase an lobby treatment in the plan. A circular skyligh more than twenty feet in diameter, lights the rea ing room, just as the interior of the Pantheon Rome is lighted. Windows were by this mea avoided in the visible part of the drum of the dom thus preserving the desired austere and scholast effect of the exterior.

The buildings were studied from small wa models in movable sections, and, later, from mode to a larger scale in plaster, while full-sized mode of the two Orders were erected on the site befo final drawings were issued. Mr. Charles A. Plat Mr. William M. Kendall, Mr. Henry Bacon, M John Russell Pope, Mr. William Simms Richardso Mr. Henry Hornbostel, Mr. Lloyd Warren, M Breck Trowbridge, and others gave generously a disinterestedly of their advice from time to time various stages of the work; and the architect, M William Welles Bosworth, says that no stateme could be complete without mention of at least t most prominent members of the office staff w produced the drawings and supervised th execution, notably Mr. Robert Cowie, Mr. Jose H. Clarke, Mr. J. H. Phillips, and Mr. Harold Ketton.

Enforced economy necessitated the eliminati of all architectural treatment on the seconda courts, and until these are built around by t sections planned for future extensions the late and rear views of the present group must suffer t fate attendant on similar undertakings. Na architecture appears likely to come first to t rescue with a new school already designed for t space on Massachusetts Avenue, immediat adjoining the corner group. A monumen approach from the water, with ramps and landir is projected as a part of the architectural scher a statue of Learning, of heroic size, has be planned for the centre of the main court; a panels designed for sculptural treatment have b left over the columned entrances to the mi courts.

The procedure by which the working drawi have been produced may be of interest. questions of pure architectural design were stud and decided upon in Mr. Bosworth's office in N York, and the treatment of the exterior façades well as the general lay-out of plan, were th determined. But the working and detail drawi were prepared on the spot, in a special "servic building 120 ft. by 75 ft., with a drawing of capable of accommodating 100 men.

After innumerable consultations with professors in charge of the various department instruction at the Institute, floor plans were fin evolved that satisfied their diverse requireme At the same time elevations, sections, and det of the architectural treatment were caref prepared. Blue-prints were then issued to structural engineers, who designed the fram They were enabled to do this by working out floor loads for the various portions of the buildi based on data obtained by the equipm engineers. The structural engineers thus de mined the sizes of columns and beams, prepared piling and footing plans, which were out on the site. At the same time, the heating ventilating engineers were considering where t fresh air intakes, ducts, steampipes, and dr could best be placed. The electrical engineers w likewise at work, preparing a scheme for artific lighting the rooms in all these buildings. T

FACE OF ATTIC AT MAIN AXIS OF BUILDING

HIGH POINT OF COPING

TO MAIN AXIS OF BUILDING

CONTINUE DENTILS

NO DECORATION

FRIEZE OVER PORTICO IN VERTICAL PLANE

INSCRIPTION - INCISED LETTERS SEE SPECIAL DETAILS

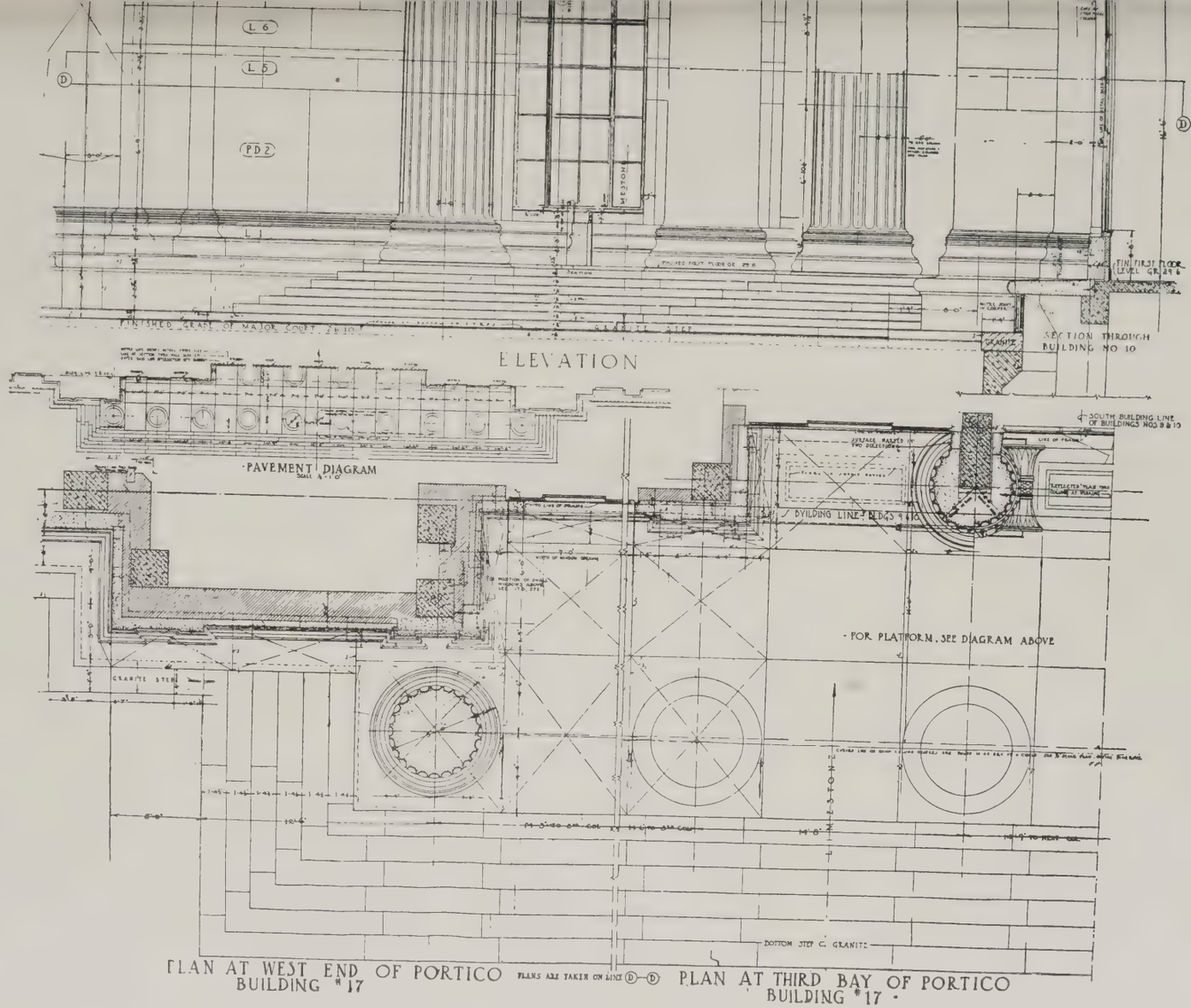
MAS

FINISHED TOP FLOOR EL 61.6

FIN FOURTH FLOOR LEVEL GRADE 74.6

FIN THIRD FLOOR LEVEL GRADE 61.6

L 21½
L 21
L 20
L 19
L 18
L 17½
L 16
L 15
L 14
L 13
L 12
L 11
L 10



BUILDING #17

BUILDING #17

ARCHITECTS' WORKING DRAWINGS (SERIES II.). XXXI.—NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.: DETAIL OF MAIN PORTICO AND ENTRANCE.

WILLIAM WELLES BOSWORTH, ARCHITECT.

OF THE
UNIVERSITY OF



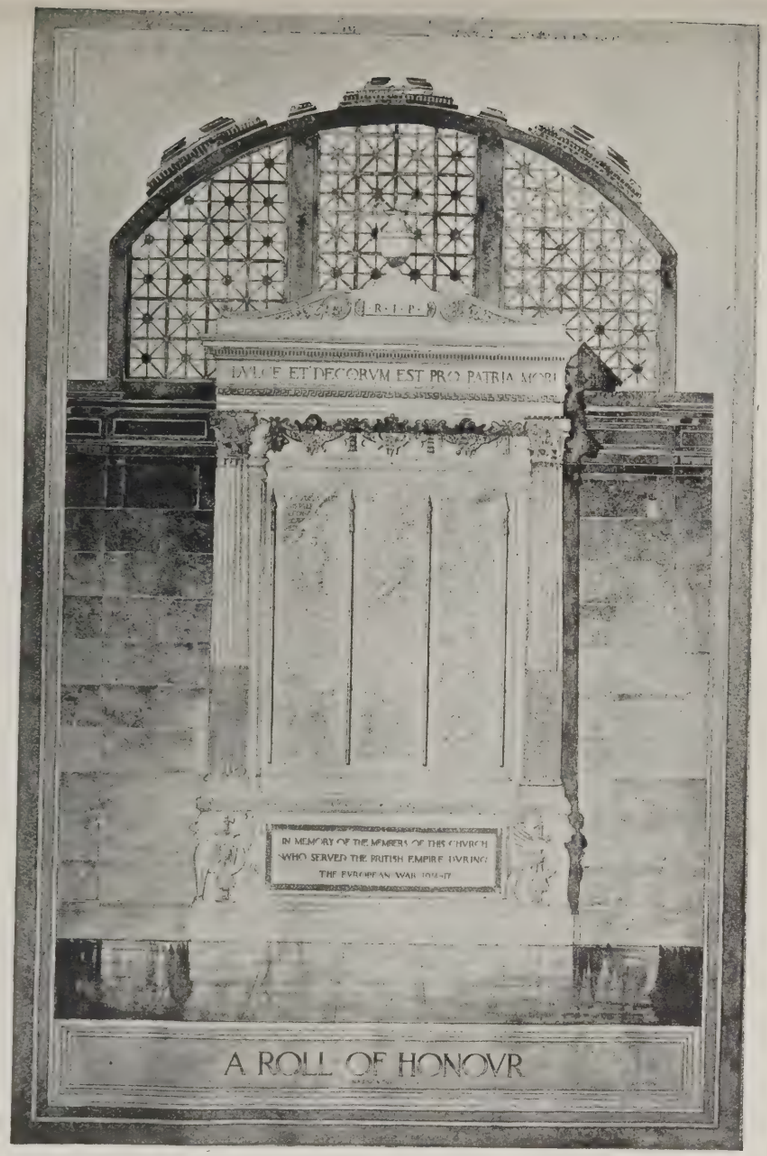


MODERN DOMESTIC ARCHITECTURE (SERIES II.). XL.—NEW TERRACE AND STEPS, "HAZELWOOD," SILVERDALE.

E. PRENTICE MAWSON, ARCHITECT.



SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). XXXIX.—HOUSE AT TRURO.



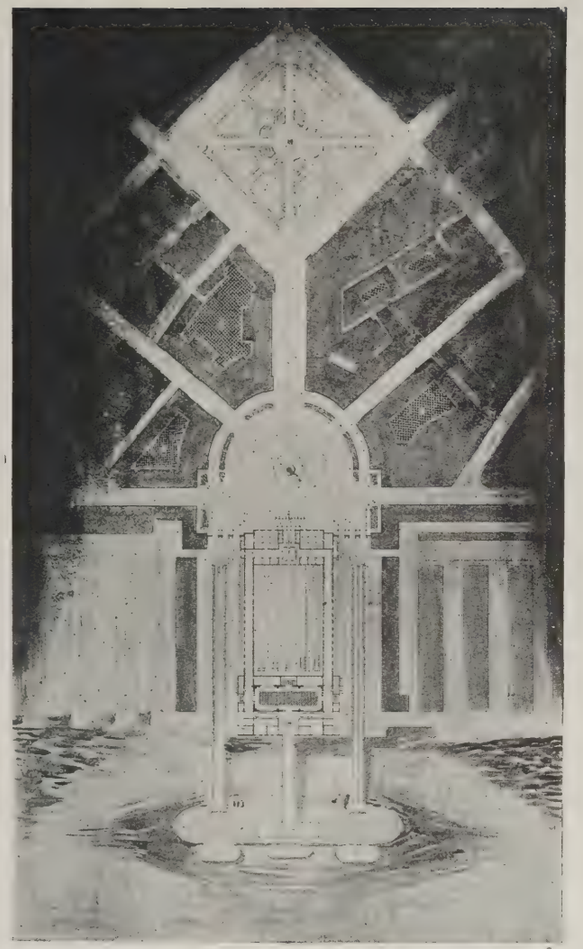
First-Year Work. By Tulio Medina.



Diploma Probation Work. By F. Jenkins.

STUDENTS' DRAWINGS (SERIES II.)—XXXII. (LIVERPOOL SCHOOL OF ARCHITECTURE.)

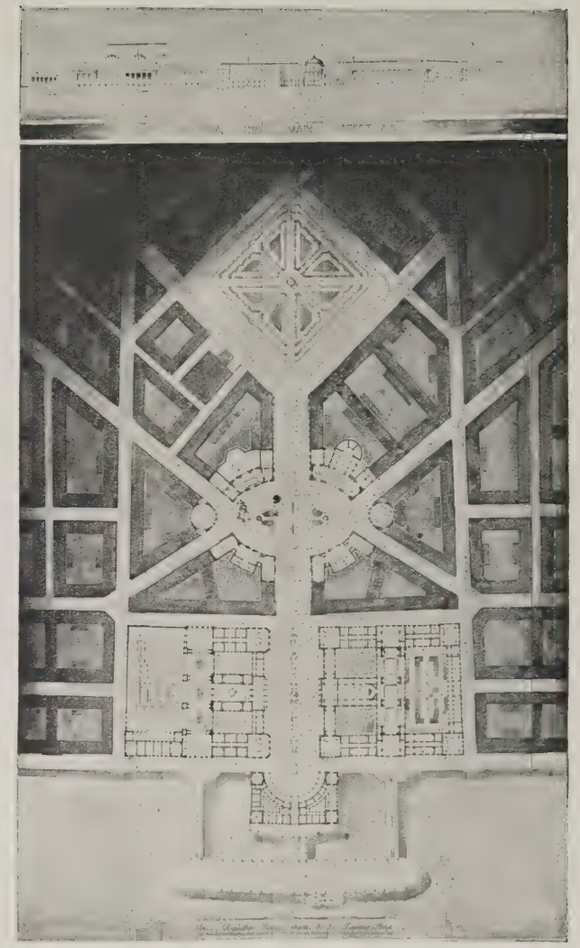
From "The Architects' and Builders' Journal," Wednesday, August 30, 1916.



First-prize Design. By S. C. Foulkes.



Area as Existing.



Second-prize Design. By Gordon Hemm.

STUDENTS' DRAWINGS (SERIES II.). XXXI.—PRIZE DESIGNS FOR REPLANNING CENTRAL AREA OF BIRKENHEAD. LIVERPOOL SCHOOL OF ARCHITECTURE.)

... to "The Architects' and Builders' Journal," Wednesday, August 30, 1916.

structural, heating, ventilating, and electrical plans were then referred back to the architect for his criticism and approval, and were thus made to harmonise with the desired architectural result. They were then incorporated in the architect's final plans, and formed the basis for the working drawings.

Weekly conferences were held in the "service" building, at which all the engineers of the various branches of the work met the architect's representative, discussed the various problems constantly arising, and arrived at decisions which could be reached only by this form of mutual co-operation. All drawings issued by both the architect and engineers were sent to the blue-print room, with an order-card calling for a routine number of blue-prints, which were sent out automatically, according to a prearranged schedule, to the contractors, the general superintendent, the consulting engineers, and all others vitally connected with the work. The dimensions and other information on all drawings were systematically checked by both the architect's forces and by the engineers, any inaccuracies being quickly corrected by immediate consultation. The architect has maintained an inspector constantly on the job, and as the construction proceeded all minor readjustments were quickly made through the medium of the telephones distributed over the buildings and connected with the foremen's and superintendent's offices and with the "service" building. All decisions and general information not included on the working drawings have been transmitted in written form on standard memorandum sheets.

Garden Terrace at "Hazelwood," Silverdale.

"Hazelwood," Silverdale, has recently undergone considerable alteration and extension for the owner, Mr. W. J. Sharp. The work was commenced with the idea of repairs and minor alterations, requiring only the help of a contractor. Later an extensive scheme was developed, including a glass-roofed verandah, terraces, and garden, as well as interior decorations and furnishings, all of which work has been carried out to the design of Mr. E. Prentice Mawson (son of Mr. Thomas Mawson, Hon. A.R.I.B.A.). After the War it is intended to lay out a rose garden and also a formal water garden below the main terrace. The limestone of the district has been used throughout for terraces. The contractors were Messrs. J. Hatch and Sons.

House at Truro.

The date of this house is, we believe, 1784. It is very characteristic of the late eighteenth century, in the delicate formality of its design and embellishment. The right-hand entrance preserves its original features intact, but later alterations have marred the corresponding doorway on the left-hand side, and modern alteration is seen also in the shop window, with its unbroken glass area. Very pleasing in their effect are the plaques above the first-floor windows and in the pediment. They add an element of piquancy to the façade.

Liverpool School of Architecture Designs.

These are referred to in the article on the next page.



VERANDAH, "HAZELWOOD," SILVERDALE. E. PRENTICE MAWSON, ARCHITECT.

LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.

ANNUAL EXHIBITION OF STUDENTS' DRAWINGS.

TO this exhibition a brief reference was made in a previous issue of this Journal. From our local correspondent we have now received the more detailed notice given below, together with illustrations of some of the drawings.

Despite the fact that the Liverpool School has now for more than a year contained no students eligible for military service, the quality of the present exhibition is not inferior to that of its predecessors. Inevitably it falls below the average of the past, so far as the quantity of work shown is concerned, though the difference is not so great as might have been anticipated. The abnormal industry of one student, Mr. Gordon Hemm, has in particular contributed to this circumstance.

To one who has regularly visited the School exhibitions, the most notable feature of that now held is the excellence of the First Year work. It shows exceptional promise, and the practice of confining design, in its early stages, to adaptations and variations of standardised themes of composition has certainly justified itself. The Palazzo Massimi, Petit Trianon, Palazzo Pandolfini, Libreria Vecchia, and other recognised masterpieces have each been carefully studied. Then a quite simple *projet* has been given—a pavilion, a small bank, or a chapel—and the *motifs* of the accepted model recombined to meet the special demands of the subject. A typical example of the method is provided in the "Design for a Bank and Office Premises" by Mr. Tulio Medina; the façade and entrance loggia of which is based on the Palazzo Massimi. Later, more ambitious essays are attempted and the design, instead of being simply a rearrangement of the elements of a single work, becomes a stylistic exercise in which a number of prototypes of the same period are employed. Thus, Mr. W. M. Rushworth presents an *esquisse* for the Facades to a Cour d'honneur with colonnade screen, which is a blend of well-known Italian compositions. Most of the War memorials exhibited have been conceived within these limitations. They are all more or less archæological studies in style and cover a wide range—from Early Quattrocento to Second Empire. Unfortunately it was not possible to obtain a photograph of the one which exhibited some degree of virtuosity—an elaborate design by Mr. M. Kelly. In its main lines inspired by the normal type of Early Italian wall monument, its detail is that of the First Empire.

A characteristic of the exhibition, indicating an innovation in practice, is the greater number of drawings rendered in monochrome. There are still many designs in which the colour scheme is complex, but the general tendency is toward experiment in tone variation with a single pure or mixed pigment. Some interesting results are obtained, the gamut including dark orange ("Projet pour la facade d'une maison," by J. Rayée) and an incisive green ("An Entrance to an Academy of Sculpture," by A. C. Holliday). A number of plain line drawings are exhibited by Mr. S. Subhung, Mr. Emile Hofman, and Mr. H. Gregory. The constructional isometrics of the first-named are of particular merit.

The more advanced work of the Second Year students occupies the greater part of the exhibition. In volume of output, Mr. Gordon Hemm, who obtains a first-class certificate and to whom has been awarded the Holt Travelling Scholarship (£50), is without a competitor. The mass of his measured work alone is extraordinary. Executed during the last two years (some of it has already appeared in this Journal), it includes the Manchester Art Gallery, Town Hall, and Free Trade Hall, and many other large buildings. All are presented with full elevations, plans and sections; many of the drawings are to ½-inch scale, and in every case complete large scale details are supplied. Mr. Hemm's *projets* also are numerous and of unusual dimensions, several sheets measuring approximately 9 ft. by 6 ft. The largest and best drawings are for a *Palais de Justice*. As the subject is that for the first round in the deferred competition for the English *Prix de Rome*, it is not permissible to reveal either by illustration or criticism the nature of this particular solution of the problem. Whilst all Mr. Hemm's probation work during his course of study reveals a primary capacity for sustained effort and laborious application, there is proof that he possesses spontaneous faculties of rapid and successful decision. This is evident both in his major examination design—"A Sculpture Gallery in an International Exposition"—for which a week was allowed, and in his six hours' sketch design for "A Memorial to the Conclusion of Peace." Monochrome rendering has been adopted for all his larger drawings.

Sound taste and a genuine comprehension of style are displayed in the work offered by Mr. S. C. Foulkes, who has qualified also for a first-class certificate. He is less copious than Mr. Hemm, but evidently a serious rival in academic accomplishment. His proposed Moving Picture Theatre in an Early Italian manner is equally the product of scholarship and artistic ability. His scheme for the re-modelling of the central area of Birkenhead has, however, attracted most general attention.

Lever Town-Planning Competition.

It should be explained that a competition in two parts, rewarded by the generosity of Sir William Lever, is held annually in the Liverpool Schools of Town Planning and Architecture. The system of procedure is as follows: An area to be re-modelled, either in Liverpool or the surrounding district, is selected by the Board of Studies in Architecture and Civic Design. Limiting conditions are imposed, and the first half of the competition is then held amongst the Town Planning students. Subject to the work reaching the requisite standard, first and second prizes of £15 and £10 respectively, given by Sir William Lever and known as the Lever Prizes, are awarded. The second half of the competition takes place amongst the architectural students, Lever prizes of the same value as those previously mentioned being again offered. It is the business of the candidates in the School of Architecture to apply to the winning town-planning scheme æsthetic treatment and so to handle the successful plan without detriment to its practical value that it will yield fine shapes and vistas. They have also to supply elevations to new buildings and to compose and group them.

On this occasion the subject chosen for treatment was the central area of Birkenhead—i.e., the area extending from Hamilton Square to the Woodside Landing Stage (including both), and embracing, on the north side, the Birkenhead Power Station and Lairage and, on the south, Messrs. Clayton's Docks and the Woodside Terminal Station of the Great Western Railway Company's system from Chester. The whole site slopes from the Square down to the Landing Stage and the railway tracks emerge at the terminal from a tunnel. Though under every disadvantage of short-sighted planning and paltry building, this area performs the function of a great traffic focus. All the important traffic lines, goods and passenger, on the Cheshire side of the river converge within it and meet at the ferry to Liverpool. Conversely the traffic from Liverpool debouches here. The ferry then is the direct link between the docks and shipbuilding on the Birkenhead side of the Mersey and the docks and commerce of Liverpool. One other means of passenger communication is the Mersey Railway under the river. Its first Birkenhead station (gained by lifts) is also within the central area, near to Hamilton Square. Finally, the Birkenhead tramway system terminates at the Woodside ferry.

In spite of its manifest importance, the area has never received any comprehensive consideration. No attempt has been made to secure the maximum of economic efficiency in regard to traffic distribution and direction; nor has the slightest thought been devoted to the architectural setting between the square and the landing stage. The latter is a floating platform carried on pontoons and is partially covered by glazed shelters. It is connected to the land by chains and by hinged girder bridges, whose angle is determined by the level of the water. At high tide they are horizontal. In addition to the passenger bridge a floating bridge and fixed slipway for goods traffic exists at the north end. The landward approaches to the stage are of the most trivial character, the Woodside Terminal is just such a station as the English railway companies have been erecting in large provincial towns all over England for the last fifty years, whilst the bulk of the property extending up to Hamilton Square is small and dilapidated. But the worst practical defects are the irregular and unnecessarily steep gradients from the Square down to the stage and the disposition of the streets. Nothing could be more typical of our pre-War contempt for organisation than this tolerated example of muddle and indifference to a really fine opportunity. For the area may be regarded as the entrance gate of Birkenhead, capable at comparatively small expense of being converted into a very noble approach. Already there exists in Hamilton Square the nucleus of a fine, though limited, conception. It is an open space, bounded on its four sides by old stone houses of the Greek Revival period. Their composition is dignified if a little tame. Latterly their conversion from residences to business premises has been accompanied by the erection of a considerable number of vulgar commercial signs and advertisements. On one side is the Town Hall. The general character of the

square has changed in the last half-century. From being the chief residential it has now become the principal office centre of Birkenhead. Unhappily it is so disposed that one of its diagonals, instead of one of its sides, is at right angles to the river front, a circumstance which renders a direct connection with the main approach from the Landing Stage less satisfactory than it might otherwise have been.

Altogether the subject is a very fitting one for that consideration which Sir William Lever's wise patronage has stimulated, and if the annual prize competitions do not always lead to immediate action on the lines indicated they serve the essential purpose of directing thought to the existence of problems urgently demanding solution and prepare the way for an enlightened policy.

In previous years the selected town-planning scheme has been the production of a civic design candidate possessing architectural training. The *plan* therefore has embodied the basic conditions of good æsthetic results, and the work of the students in the School of Architecture has been chiefly concerned with the making of elevational and large perspective drawings. This year, however, the project selected in the first half of the competition showed an exclusive pre-occupation with utilitarian requirements. Scientific ability was revealed unaccompanied by the architectural knowledge necessary to achieve the satisfaction of those requirements in a beautiful manner. It was therefore agreed by the Board of Studies that the architectural students should start *de novo* with their own handling of the area, though free to avail themselves of the data afforded by the successful town-planning scheme. Consequently their activities have largely been concentrated on re-planning on architectural lines. To Mr. S. C. Foulkes has been awarded the first prize and to Mr. Gordon Hemm the second.

Mr. Foulkes's *projet* (reproduced on one of the plates) is clearly the outcome of a close study of the site, traffic, and property conditions. Without the assistance of his full and clear report so much would be evident. The chief features of his plan are the establishment of a longitudinal axis coincident with the east-and-west diagonal of Hamilton Square, and the creation of an avenue, a hemicycle with radial roads, a new Terminal Railway Station and Landing Stage, on that axis. Except in one important respect, namely, the moving of the Woodside Terminal to a central position, no drastic alterations are made to large existing buildings. Thus an awkward junction is effected between the main avenue and Hamilton Square, though it could have been avoided by setting back and rebuilding one side of the Square; and the Lairage, Power Station, and Docks are left undisturbed. Almost all the property which it is necessary to acquire for the purpose of the remodelling is in bad repair and of little commercial value.

The provisions for dealing with the traffic appear in the main to be sound and well thought out. At present there is at various times of the day considerable congestion and delay in the case of the goods ferry. This may partly be ascribed to the inadequate service of boats and partly to the fact that there is only one bridge for a great volume of wheeled traffic of every kind, horse vehicles and heavy motor traction. To obviate the costly holding-up of slow and fast traffic, which involves an annual wastage calculated to amount to at least £5,000, Mr. Foulkes provides, for motor and horse vehicles respectively, two floating bridges and slipways, one at each end of the stage, in place of the single one now used. A double ferry service for goods and a wider landing stage, permitting greater freedom for the manœuvring of vehicles, are corollaries of the proposal. At the top of the slipways the whole of the incoming and outgoing traffic is controlled from the centre of the hemicycle, the heavier traffic being directed into the lower radial roads, which are laid out with a view to obtaining the smallest possible gradient. In the centre of the stage a broad, double gangway for passenger traffic (with its separate boat service as at present) leads to a covered Concourse, common to the ferry and station. From the Concourse lateral openings admit to the trawmay corridors, whilst steps descend to the lower level on which are the station platforms. The level of the present Woodside Terminal is maintained in the proposed new structure, though a slight alteration is made in the line of the existing cutting and tunnel to bring the tracks to their axial position. On the same floor as the platforms and under the Concourse and baggage rooms, provision is made for the usual accommodation—baggage lifts, waiting rooms, etc. —equal in extent to that now in use, and lighted both from the river front and from the openings above the tracks. A low, separate roof is given to each platform. Refreshment rooms and general offices are located in the block facing the hemicycle.

In regard to the latter, three of the blocks comprising its solid elements are intended to contain the Sailors' Institute, the Woodside Hotel, and the Post Office. The approach to the Hamilton Square Station of the Mersey Underground Railway remains in its present position, which coincides with the remaining block of the hemicycle, viz., that bounded by the main avenue (intended to continue the office property of Hamilton Square) and the radial road which extends in a north-westerly direction. From both these streets and from the hemicycle access to a central lift foyer is obtained.

The façades to all of the new buildings carry on the traditions of the Square, but in a more interesting manner and, without provoking conflict, on a rather larger scale. A judicious economy of means is employed in the rendering of the sectional drawings. The plan—a large work, about 7 ft. by 3 ft. 6 in.—is boldly and richly coloured. In its principal elements as in its details the scheme is broad, consistent and clearly conceived. Its execution would provide Birkenhead with a portal worthy of the town and one that would reflect distinction upon its inhabitants.

A project little inferior to that of Mr. Foulkes's is produced by Mr. Hemm, the author of the second prize design. The skeleton of his plan is similar in many respects. Its chief points of difference are: (1) The recessing of the north-east



LIVERPOOL SCHOOL OF ARCHITECTURE: PERSPECTIVE VIEW OF SECOND LEVER DESIGN FOR RE-PLANNING THE CENTRAL AREA OF BIRKENHEAD. BY GORDON HEMM.

side of Hamilton Square to secure a symmetrical junction with the axial avenue; (2) the creation of an elliptical *place* (from which the lifts of the Underground Station are gained in the same manner as in Mr. Foulkes's hemicycle); (3) the development of the Woodside Terminal on its present site; (4) the balancing of the Terminal by a large hotel on the opposite side of a long rectangular space; (5) the creation of an exedra-shaped and colonnaded approach to the Landing Stage.

As will be seen from the plan and perspective, Mr. Hemm's conception is the more elaborate of the two, and one suspects that its relegation to a second place was largely due to its too great repetition of pattern. The complete symmetry of its streets anl block-plans is carried to a point at which it ceases to have æsthetic value, since it could not be appreciated in reality and would besides be impracticable. Also, certain site contours are ignored in a way that would involve serious practical difficulties in reference to the railway. Nevertheless, the design embodies ideas of great dignity and could with re-study be made wholly workable. Some of its architecture is admirable.

In concluding an account of this exhibition mention must be made of the work of Mr. F. Jenkins, who has gained the diploma of the Liverpool School. The diploma course succeeds that for the certificate. A minimum of two years' office and further school training is required after having obtained the certificate and a number of advanced *projets* in design and construction are prescribed. Special studies, accompanied by complete reports, working drawings and specifications, must be presented for the Final Examination, when an oral test and a review of all the probation work is held. Incomparably Mr. Jenkins is the most mature student of the School. His rendering, his knowledge and ability in design put him in a unique category in the exhibition and make a visit to the cubicles filled by his exhibits not merely a pleasure but an education.

MEMORIALS IN CHURCHES.

In his introduction to the annual report of the Society for the Proteciton of Ancient Buildings, Mr. Somers Clarke has a note on memorials in cathedrals and churches. He says: "A memorial, effective in itself, may be rendered altogether a failure by the want of foresight and sympathy with its setting displayed by the sculptor who has designed it. . . . It is unfortunately, in England, a common thing for sculptors to be invited to send in their schemes when the situation of the memorial has not yet been decided upon. . . . Cases are not unknown of extreme laxity on the part of the sculptor as regards a memorial to be placed inside a building. How seldom does the artist think of anything but the effect he is producing inside his studio. The members of the committee are gathered into the studio to see the work, to pronounce an opinion. A strange place is this studio to them, and barn-like in their eyes, utterly unlike in its lighting or effect the cathedral or church which is to house the memorial. The members observe how truthfully the boots are reproduced, but cannot quite agree as to the likeness in the countenance of the deceased. By deft pulling about of blinds and a little juggling with top light the committee is mystified. Of course, in the church are no such blinds and top lights; very possibly the site selected in the building has a considerable window just behind the memorial. The sculptor has paid no consideration to this fact, has never tried the whole or even part of his work in the building itself. In the end the memorial declares itself to be as it really is, a mere intrusion. All parties are disappointed, as, indeed, they ought to be. . . . Turning to the outside, in how many cases do we not observe that surrounding a modest and venerable country church the churchyard has been planted with a crop of tall crosses of white marble. Not infrequently the top of some of these crosses will rise even above the eaves of the aisle roofs. When these chilly white memorials have increased in numbers, what was once a calm and picturesque churchyard takes on the aspect, from a short distance, of the drying-ground of a laundry. The old-fashioned headstone, so unassertive, becomes pleasantly toned by the finger of time; the solid gravestone with the cross recumbent on it is not only incapable of producing the unquiet effect of the marble cross upstanding, but is really lasting, which the crosses are not. It cannot be too strongly insisted upon that white marble, especially the cold, hard, blue tinted stuff made use of by the tombstone masons, is not only in fact but also in effect completely foreign to our climate and country. The finger of time can never make this material harmonise with the surroundings into which we thrust it. As regards the memorials set up inside our ancient churches . . . the white marble now so generally in use can under no circumstances and in no lapse of time come into harmony with the somewhat warm tints of plaster and stone which form the internal surfaces of our ancient churches. There exist materials which will readily harmonise—as, for



LIVERPOOL SCHOOL OF ARCHITECTURE. DIPLOMA PROBATION WORK.

BY F. JENKINS.

example, Hopton Wood stone, with a fine close texture of marble but of a pleasant warm tint; or blue Pennant; or even the softer tones of Siena marble if only the material be not brought to a high polish. A surface that reflects light is almost certainly an offence—granites are always to be avoided. Then there is that most obnoxious thing, the modern brass. Of old, brasses lay on the floor; the metal was inlaid on a slab of dark marble where it might be had, or of stone. Being often trodden by the feet of the worshippers the surfaces of brass and marble were rubbed, were smooth, but never polished. Nowadays the brass is an ugly plate nailed upon or even sunk into the ancient wall. Burnished to a high degree it reflects lights in a way not only disagreeable in itself but often in such a manner as to render the inscription illegible. . . . And who is a worse offender in memorials than the manufacturer of stained glass? An interior provided by our forefathers with ample light is turned into a gloomy cave by the perpetrators of the monstrosities which are set up in many an ancient church without the smallest regard to the effect in the building, the convenience of the worshippers, or the great expense to which people are put by the perpetual need of artificial light on the brightest day. Our forefathers did not set up opaque windows smeared with incrustations to represent a sham antiquity. . . ."

THE REINFORCED CONCRETE SPECIALIST AND THE CONTRACTOR.

In the early stages of reinforced concrete, when its application was on a small scale, there were only a few contractors (says "Kahncrete Engineering") who were prepared to devote sufficient study to this type of construction to enable them to carry it out. These contractors gradually developed their reinforced concrete organisations, and owing to their small number a suitable firm could be selected with but little care when it was desired to use the new material. There was then no necessity for placing artificial restrictions on a group of builders already limited in number.

With the popularisation of the industry, however, the number of contractors who have entered the field has grown to so great an extent that to-day almost every contractor believes himself capable of executing this class of work. It is general knowledge that there are some who are not, and probably never will be, able to do justice to it. As a result of this contingency, our contemporary holds some action should be taken to discriminate between the capable and the incapable contractor.

We ("Kahncrete Engineering") hasten to say that we are not in favour of the adoption of any monopolistic conventions which tend to limit trade, but we believe that any arrangement made to discriminate between experienced and inexperienced contractors should be encouraged by the specialist designer. The specialist who has a small or an unimportant practice will not need to be so particular as the one whose practice involves the designing of important works, but in either case there should be a relative degree of discrimination. The architect or engineer cannot be in sympathy with the specialist who permits his designs to be carried out by contractors without any restrictions whatsoever, because a poorly executed reinforced concrete construction will jeopardise the relationship between the architect or engineer and his client.

And discrimination is in accordance with the best traditions of British practice. A young engineer who has no reputation to protect will employ any contractor; but the important firms of consulting engineers, who are commissioned with large undertakings, invite tenders from only a limited list of contractors.

Unfortunately an experienced reinforced concrete contractor is handicapped when tendering against an inexperienced one. The former, having learned the minimum costs of erecting and removing the centering, mixing, and placing the concrete, bending and fixing the steel, will tender accordingly, whilst the latter will often submit ridiculously low tenders in order to purchase this knowledge and gain the experience in which he is as yet lacking.

Competition in tendering should be limited to contractors of equal standing. It should not have for its object the finding of that contractor who is prepared to pay the highest price for experience, but the finding of that contractor who, being experienced, can buy his materials in the cheapest market, and can organise his plant and his labour to the best advantage. Competition which aims at the latter result is placed upon its proper level.

A broad-minded building owner will always give preference to an expert contractor, especially when he realises that in selecting the low tender of a novice he is merely allowing his construction to be used as an experiment in technical education.

But the specialist, in turn, should also give the experienced contractor some preference, by way of a reduction either in his designing fee or in the cost of the reinforcing steel. He can afford to do so, because it is less costly for him to supervise the work of the capable contractor than that of the incapable, and the former is entitled to benefit by this saving.

Of recent years several firms of reinforced concrete specialists have entered into arrangements of a co-operative nature with selected experienced contractors, enabling the latter to specialise in one particular system, whilst the former render assistance not only in securing work, but also in the problems involved in its execution. Such an arrangement appears to us to be commendable because it creates between the practical man and the theoretical designer a closer relationship that involves many important advantages.

A contractor specialising in one system becomes accustomed to the principles of design and the requirements of his specialist; and the specialist, for his part, becomes familiar with the methods adopted by the contractor in executing the designs. A knowledge of the contractor's own methods is of extreme importance to the designer, who, for the sake of economical construction, should embody in his designs only such details as can be practically carried out.

Any co-operative arrangement made between the specialist and the contractor should be such that it does not limit the contractor's sphere of action. In those instances where an architect or engineer specifies the use of any particular system of reinforced concrete, the contractor should have a free hand to tender for and execute the work on the desired system; but where the choice is left to the contractor, it is to his own best interest and that of the owner that he should confine his tender to the use of the system in which he has specialised, and of which he has therefore the greatest knowledge.

The success of the co-operative arrangement depends in a great measure upon the condition that all expert contractors specialising in any one system should be placed on the same basis, and the soundness of this proposition must appeal to any specialist designer who has even the most elementary knowledge of business principles.

We are firmly convinced (our contemporary concludes) of the fact that that system of reinforced concrete will enjoy the best reputation which is not only designed on the most scientific lines, but which is also entrusted for its execution to contractors of the highest standing.

THE COST OF HUTMENTS.

A White Paper issued by the War Office last week gives the approximate cost of the hutting provided, or being provided, for the accommodation of troops (including hospital patients) and horses in the United Kingdom in the years 1914 to 1916. The approximate total cost is £24,500,000, including: Services carried out by agents of the War Department, as detailed below, £12,061,000; services carried out by the Royal Engineers—mainly by contract £7,374,000, mainly by direct labour £1,170,000, total £8,544,000; services carried out (all by contract) by the Barrack Construction Department, £1,973,000; services carried out by the Raisers of Local Battalions and other Units, and by the Road Board and Railway Companies in connection with hutted camps, etc., £1,922,000.

The following are the details of services carried out by agents of the War Department:—

—	Expenditure.	Establishment Charges.	Commission.	Total.
	£	£	£	£
W. Cubitt and Co. ...	243,800	3,800	10,400	258,000
Sir J. Jackson, Ltd. ..	3,624,300	51,000	150,700	3,826,000
Macdonald, Gibbs, & Co. (Engineers), Ltd.	1,647,200	34,900	51,900	1,734,000
Merricks, Crane, and Co.....	646,600	10,300	25,100	682,000
Perry and Co. (Bow), Ltd..... ..	1,416,400	25,800	19,800	1,462,000
Topham, Jones, and Railton, Ltd.	147,200	2,800	—	150,000
Mr. W. Willett	152,700	2,700	5,600	161,000
Balfour, Beatty, and Co., Ltd.	682,200	10,100	26,700	719,000
Harper Bros. and Co., Ltd	1,576,300	23,300	62,400	1,662,000
W. Nicolson and Son (Leeds), Ltd...	428,600	6,100	16,300	451,000
J. Norton Griffiths, Ltd.....	335,500	4,800	12,700	353,000
G. Trollope and Sons and Colls and Sons, Ltd.....	529,100	7,900	21,000	558,000
Mr. R. Burke	44,700	—	300	45,000
Total.....	11,474,600	183,500	402,900	12,061,000

It is pointed out that the final figures cannot at present be given; the above are approximate estimates. The first seven agents receive for part of their work a percentage in respect of establishment charges only at rates varying from 1½ to 2½ per cent. For the rest of their work they receive 1½ per cent. to cover establishment charges and 5 per cent. for commission. The next five agents receive for all their work 1½ per cent. for establishment charges and 4 per cent. for commission. Mr. Roland Burke received only a lump payment of £250 with £50 for his staff.

"RE-PLANNING OF DUBLIN" COMPETITION: AWARDS.

We are officially informed that the adjudicators in the Marquis of Aberdeen's competition for the re-planning of Dublin, viz., Professor Patrick Geddes, of Edinburgh; Mr. C. J. McCarthy, F.R.I.A.I., City Architect of Dublin; and Dr. John Nolen, of Cambridge, Mass., have completed their examination of the designs, and that the prize has been awarded to the design submitted by Professor Patrick Abercrombie, of the Department of Civic Design, Liverpool, and Messrs. Sydney A. and Arthur J. Kelly, surveyors, of Liverpool.

Honourable mention has been given to the designs submitted by Messrs. Ashbee and Chettle (C. R. Ashbee, F.R.I.B.A., and George H. Chettle), architects, of Chelsea, S.W.; by Messrs. J. M. L. Bogle, B.E., City Engineer's Office, Liverpool; Arthur W. Panton, M.A., A.M.I.C.E., Clontarf, Dublin; H. O. Burroughs, B.A., University School of Architecture, Liverpool; and O. Newbold, Cert. Arch., Liverpool; by Messrs. Kaye-Parry and Ross (W. Kaye-Parry, M.A., F.R.I.B.A., M.Inst.C.E. and George Murray Ross, M.A., B.I.A., M.Inst.C.E.I.), civil engineers, architects and estate surveyors, 48, Kildare Street, Dublin; and by Mr. Frank A. Cushing Smith, B.S., M.L.A., University Club, Urbana, Illinois It is hoped to arrange for an exhibition of the designs in Dublin at an early date.

DEFENCE OF THE REALM ACT: POSITION OF CONTRACTORS.

In the House of Commons on August 21, Mr. Peto asked the Prime Minister whether his attention had been called to the judgment in the cose of the Metropolitan Water Board v. Dick, Kerr, and Company, in which the decision of the court was that a contract is not determined by action taken by the Ministry of Munitions which renders it impossible to continue its execution; and whether he intends to introduce legislation to define the position of contractors under conditions brought about by the Defence of the Realm Act and other exceptional legislation necessitated by the war?

The Prime Minister: This question is under consideration. A deputation representing certain contractors has been received by my right hon. friend the Solicitor-General, and further information is now being obtained with a view to an early decision on the matter.

WAGES IN THE BUILDING TRADE.

The men engaged in the building trade in Birmingham have put forward a demand for an advance in wages of 2d. per hour as a War bonus. The demand having been refused by the employers, a meeting of the operatives was held on August 20, when the question was discussed. Councillor Saunders then declared it was absolutely impossible for the men to live on the present wages. He moved the following resolution: "That this mass meeting, having heard the result of correspondence between the Allied Building Trades and the Birmingham Building Trade Employers' Association, very much regret the employers' attitude in declining to meet our representatives, and hereby confirm the demand made by the recent meeting of delegates for an additional advance to all sections of the trade of 2d. per hour War bonus. Further, that the secretary be instructed forthwith to lay the case before the Ministry of Munitions and the Board of Trade with a view to an arbitrator being appointed at the earliest possible moment." The resolution was carried, and a further motion authorising the taking of a ballot of the operatives within twenty-one days to decide whether they should cease work, in the event of the Government reply being unsatisfactory, was also carried. The present rate for skilled men is 11d. per hour, with the addition of ½d. as War bonus; labourers are in receipt of 8d. per hour and ½d. War bonus; whilst navvies are paid 7½d. per hour, as well as ½d. War bonus. On behalf of the employers, it is urged that since the outbreak of war the men in the building trade have received three increases amounting altogether to 1½d. per hour. Two of these advances, it is true, had been agreed upon before the commencement of hostilities, but in any event, it is said, it cannot be argued that the men are no better off in the matter of pay than before the War.

A VILLAGE DEVELOPMENT SCHEME.

The Housing Organisation Society—started originally in 1911 as the Rural Copartnership Housing Association—is now engaged in completing the development of Crayford, in Kent, where a process of extension has been going on for many years, due to the existence of a number of industries. In 1914 the Society was approached by Messrs. Vickers and others in regard to providing housing accommodation for the increasing number of workmen employed. It was decided to form a public utility society, known as "The Crayford Cottage Society," on the Board of Management of which are to be found representatives of the chief local industries as well as of the Organisation Society itself. A site of about sixty acres immediately to the west of the village, lying along the north bank of the River Cray, was secured, and a lay-out plan was prepared.

The preliminary difficulties in regard to development were very great. The estate is in the area of the Dartford Rural District Council, whose by-laws in regard to roads were of the old type. The Society, however, presented to the Council a carefully prepared case showing the advantages of by-laws which would permit of the adoption of town planning development for this and similar estates. It was desired to have roads formed in regard to the requirements of the situation, to form crescents and cul-de-sacs, which could not be done under the then existing by-laws. A town-planning scheme was out of the question, either a private scheme or a Council scheme, because of the long time which must necessarily elapse before its approval, and houses were badly needed. After a good deal of correspondence and interviews, a meeting was held between representatives of the Council and the Society, with the result that the Council agreed to modifications in regard to the roads. Except in the main thoroughfares, 36 ft. roads with 20 ft. carriage-ways are allowed; cul-de-sacs are 24 ft. wide, with a carriage-way of 16 ft. and a 4 ft. path on either side. Roads open on one side, communicating at each end with a 30 ft. road, are allowed carriage-ways of 16 ft., and a further concession is made in the way of "footpath streets," on which houses can front a footpath of not less than 10 ft. in width which communicates at either end with carriage streets 30 ft. and 36 ft. in width, one of them being of the latter width. Such "footpath streets" are allowed to be 200 ft. in length and no secondary access is required. These concessions have naturally greatly contributed to the healthfulness and pleasant aspect of the district, while, of course, they have facilitated the progress of the work, and they will form a useful precedent to other societies which are experiencing difficulty in regard to development and which cannot possibly wait for the passing of a town-planning scheme.

Six hundred houses are being built. The interior arrangements show considerable advance upon some of those which have been erected in recent years. Even in those provided at the low rate of 8s. 6d. a week, including rates, there is one good living room, and the bedrooms are of quite fair size, while every house has a bath. Each house is fitted with electric light and gas is also laid on. In many instances the expensive kitchen range has been done away with and a register grate with back boiler has been substituted, gas stoves being provided for cooking purposes. Undoubtedly this provision makes for economy of cost and labour, but the wishes of tenants have been studied as far as possible, and it has been found that, particularly among the tenants who come from the North of England, there is a great desire for the old-fashioned range, and in those cases this has been inserted, although the provision for gas cooking still remains. The cubic capacity of the rooms is above the average. The average finished cost of the smaller houses, including land and other charges, is said to be about £300. As practicallv all the building has been done since the outbreak of War, this is a remarkably reasonable figure.

MOBILE LABOUR SQUAD.

To meet the considerable deficiency of navvies and labourers wanted for building work in connection with the munition factories, and generally for war purposes, the Minister of Munitions is starting this week a new scheme to obtain some thousands of men for a new mobile labour squad. The men are now invited to enrol themselves for national work. They will be required to sign on for a period of six months, or the duration of the War, and they must agree to work wherever they are directed by the Minister of Munitions. They will receive the current rate of wages to which their work entitles them, and fares will be paid to and from the place of employment. Free accommodation will be provided where they work, or an allowance of 1s. a day will be made if accommodation is not arranged. Employers are asked to help the country by releasing men who could usefully join the squad, but care will be taken not to take any men who are already employed on work of national importance.

Men who join the Labour Squad will not be subject to any form of military discipline. Their only obligation is to work wherever they may be sent during the period for which they bind themselves. Every man enrolled will be furnished with a certificate showing the service he has rendered to the country.

This development of the scheme of the Ministry of Munitions will be watched with the greatest interest.

ELECTRICAL NOTES.

Electric Fire Fixtures.

It has always been considered an advantage of electric heating and lighting that, in comparison with gas or coal, the apparatus are entirely portable. Nevertheless, one cannot get away from the chimney, fireplace, and mantelpiece, which are useful and ornamental sine quâ nons of every house, and it is therefore not surprising that, as the electric fire is now well beyond the experimental stage, The Carron Company should have introduced a pattern for building in as part of the house equipment. This fire consists of a standard Carron panel heater with radiant elements, let into a small recess in a marble back with a panelled surround or overmantel which may cover up an ordinary fireplace. An electric fire of this sort may, in fact, be fixed in any convenient position, it being only necessary to cut away the wall panelling so as to form a small recess, to let in a heater of the desired capacity, and to line up with tiles, marble, or other material to taste. No doubt most people would prefer to retain the ordinary fireplace if for no other purpose than ventilation, and it would be desirable to instal the electric fire elsewhere so that the heat would not be dissipated up the chimney. The heat control of these fires can be effected either at a switch forming part of the casing or at switches mounted alongside the fire. Fixtures of this kind would no doubt be of advantage in all places where the flexible wires incidental to the use of portable heaters might be in the way, as, for instance, in public rooms.

An Electric Egg Cooker.

A device of this kind involving a novel idea has recently been introduced in the United States, the eggs being cooked by steam (as with the usual spirit cooker). This steam is generated by the passing of current through a small quantity of water between two carbon electrodes. The device consists of a metal base in which rests a concave porcelain dish provided with a groove round its perimeter and a well in its centre. In the groove rests a dome-shaped metal cover with a knob at the top, and the well contains the charge of water and the carbon electrodes. The charge of water may be adjusted so that it will all be converted into steam at the end of a definite period, and the current will thus be cut off automatically and over-cooking be prevented. The groove in which the cover rests is of the same capacity as the well, and by catching the condensation water from the steam it prevents the water running back into the well and thereby conduces to the limiting of the time of cooking. In order to lower the resistance of the water, the carbon electrodes are impregnated with salts which are absorbed by the water. The eggs are carried on a perforated plate in the usual manner, and it is claimed that four eggs can be cooked by one and a half teaspoonfuls of water.

Continuous Blue Printing Machine.

No well-equipped drawing office in an engineering works or architect's office can afford to be without a photo printing apparatus, and for many the electric light is indispensable because it renders them independent of daylight and thus saves time. Many forms of printing machines have been devised for use with arc lamps, but the latter had many disadvantages well known to their users. The invention of the Cooper-Hewitt Mercury Vapour Lamp marked a big step forward, because its qualifications for the purpose in question could not be improved upon. Firstly, no trimming is required; secondly, the light is richer in actinic rays; thirdly, the shape of the lamp is tubular with uniform illumination throughout its length; fourthly, the exposures are shorter and the current consumption smaller, the cost at 1d. per unit being only ¾d. per hour. Cooper-Hewitt lamps have been in use for a considerable time in several different kinds of blue printing apparatus. The simplest device is a horizontal glass cylinder on the surface of which the sensitised paper and tracing are placed under a cloth band. The Cooper-Hewitt lamp or lamps are placed inside the cylinder. The latest apparatus, however, is a continuous blue printing machine combined with a mechanical developing and drying apparatus, which produces blue prints at high speed and almost automatically. A continuous roll of sensitised paper is fed on to a glass cylinder containing the lamps and supported on endless belts. The cylinder rotates on the belts and the tracings are fed in between them over the blue paper. The belts are driven by a small motor through a variable speed gear, and prints can be made at a speed up to thirty linear feet per minute. The automatic developing machine is also motor driven. The roll of exposed paper passes through a water trough, and then through a wringer to remove the surface water, after which it passes on to a hot drum which dries and irons the surface. The prints are then either rolled up automatically if continuous, or stripped from the drum if of small dimensions.



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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, September 6, 1916. Volume XLIV. No. 1131.



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(In the Soane Museum.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

SEPTEMBER 6, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1131.

EDITORIAL.

IN a letter addressed to the Right Hon. J. A. Pease, Postmaster-General, Mr. Ernest Newton, President of the R.I.B.A., protests against the extraordinary powers sought for under the Telegraph (Construction) Bill, and asks that when the Bill reaches the committee stage a hearing will be given to those whose interests would be seriously affected by the presence of poles and wires upon their properties, and by the consequent menace to the future development of land and property. These rather materialistic, but nevertheless important considerations, are leavened by the introduction of the word "unsightliness," but beyond that the references to amenity are nebulous and inferential. It is, indeed, unnecessary to assert the art interest when, as in the present instance, it happens to be inseparable from utility, and when the appeal relates to an eminently practical subject.

* * * *

To get the telegraphic and telephonic paraphernalia put out of sight would be a tremendous gain to amenity. Wires and poles destroy the effect of many a fine building, and ruin great stretches of the countryside. Before the war, we were in a fair way to abate the nuisance in towns, as the overhead system was being gradually superseded by underground wiring, but the progress of that excellent reform has been postponed to more propitious times. In the meantime we must suffer with patience the disfigurement of buildings, and the dangers to life as well as to property that are inevitable where these aerial wire entanglements are subject to fire ; and storm ; and stress ; while to get at them is a gymnastic feat that seems to court the most appalling accidents—which, however, we are glad to believe, very seldom occur. In the reply to the president's letter, it is admitted that where the number of wires is large the superior economy in maintenance counterbalances the heavier cost of underground construction, and this fact should be pressed home when the Bill comes into committee. No further aerial installations should be allowed in towns, whether the number of wires be large or small. An additional argument for their decent burial is their menace to our own aviators flying low, and the complication of the danger from enemy aircraft. Firemen know only too well how their work is hampered and their lives are endangered by the fall of wire-bearing standards, and their evidence should of itself suffice to rid us finally of this incubus. Altogether, this is a subject on which the R.I.B.A. is not only entitled to be heard, but one in which it is surely secure of public sympathy.

* * * *

What is remarkable about rural district councils is not so much their grand breadth of view as their minute attention to details that in less august assemblies are apt to be overlooked. With a punctiliousness which all admire but few may emulate, the chairman of a Welsh Rural District Council has brought against Mr. Lloyd George the damning indictment that in opening a "Nonconformist hut" he failed to ascertain, as a preliminary, that the drains were in order—or, rather, that they were not in order. "The chairman maintained," it is reported, "that Mr. Lloyd George had no right to open a building before the plans had been passed, and suggested he should be written to and asked by what right he did so." This course was not adopted. Other members of the council, feeling, no doubt, that this unanswerable charge could only result in the immediate resignation of Mr. Lloyd George as Minister of War, and that, notwithstanding his default in drains, the country would not care to lose him at the present juncture, temporised upon the weak plea that the Minister could not know that the plans had not been passed, and that "he was not supposed to inspect the drains of every building he opened." Only the drains of some of the buildings, we infer ; and it would be interesting to know whether, in these intermittent tests, he employs the water, the smoke, or the scent system. Anyhow he has had a very narrow escape, and it is evident he will have to be more careful in future ; for the censure of a rural district council is not to be faced with equanimity, even by a War Minister. Mr. Lloyd George is no doubt shaking in his shoes—with inextinguishable laughter.

* * * *

Professor Leslie Patrick Abercrombie, M.A. A.R.I.B.A., who, in association with Messrs. Sydney A. and Arthur J. Kelly, has been awarded Lord Aberdeen's prize of £500 in the competition for the re-planning of Dublin, entered it with an enviable equipment of knowledge and skill. Educated at Uppingham and at the Realschule, Lucerne, he received supplementary training at the Manchester School of Art, and in the evening school of the Liverpool School of Architecture. He was articled to Mr. C. H. Heathcote, F.R.I.B.A., and served for nine years on the Council and committees of the Liverpool Architectural Society. For nearly six years he has been Lecturer in Building Construction and Mediæval Architecture, and Studio Instructor, in the Liverpool School of Architecture, and for the same period Lecturer and Research Fellow in the Department of Civic Design in the Liverpool University and editor of the "Town Planning Review." He has been successful in several other town-planning competitions, including that for Prestatyn, 1912, for which he was awarded the first premium in conjunction with Messrs. Shepheard and Bower ; and in the

ollowing year he was awarded the third premium in he Bradford town-planning and workmen's dwell-ngs competition. In similar competitions his ervices as assessor have been much in request. His success in the Dublin competition will be most ratifying to his colleagues and his past and present tudents of the Liverpool School of Architecture, mong whom he has always been extremely popular. Ie writes with facility and distinction, and has con-ributed many articles to this journal and to the Architectural Review."

* * * *

That the prize designs will materialise is almost o sanguine an anticipation ; and a cynic would say at the proposal to give them effect has the less ance of success because it is eminently reason-ble. The character of the debate in the House of ommons on the second reading of the Dublin econstruction (Emergency Provisions) Bill does ot inspire much confidence that calm common-nse is likely to control the situation, and there are her indications that passion and prejudice are ing fomented to sophisticate an issue that above l things demands freedom from such pernicious fluences. This bodes ill for the hopes that Dublin ould arise glorious from her ruins. Nevertheless e Irish Institute should not be daunted in its forts to avert the calamity of chaotic building with hich the city is threatened. It is a matter in which ey are entitled to be heard, and the occasion is orth all the strenuousness and sagacity they can vote to it ; and the opportune exhibition of the mpetition designs should help the endeavour. In oving the second reading of the Bill, Mr. H. E. ake, the Chief Secretary for Ireland, expressed the pe that the differences between the owners and e Corporation, especially with regard to questions compensation, might be settled between the rties: otherwise, he said, the Government would ke the matter in hand. He said nothing about a neral scheme for town-planning, a point upon hich the Bill also is sadly remiss, although, in ality, it is the most important factor in the pro-em; because, failing another rebellion, the recon-uction may abide for a century as a visible and ngible monument of wisdom or its opposite, hereas the money interest is merely ephemeral. t apparently the rebuilding and re-planning are to subject to "the procedure of Provisional Orders, hich must obtain the assent of Parliament." This notoriously a cumbersome, a costly, and in every y an unsatisfactory method, and it is peculiarly ppropriate to the present urgent conditions. It reassuring to find that, as recorded in a later ge, the corporation seems disposed to lend an entive ear to architectural opinion.

* * * *

Sir John Wolfe Barry has done well to draw atten-n to the Londoner's habitual and reckless waste potable water. Too little has been said and ne on this head, perhaps because of a lurking fear t economy in this direction might militate against anliness and health. Water is so plentiful that average person who does not feel the direct idence of the rate for it deems it of no money-ue, and consequently uses or wastes it with the ost extravagance. Probably half the quantity v consumed would serve abundantly all real ds; and the quantity wasted through leaky paratus would of itself amount to an efficient pply for a small town. There is much avoidable ste at every available outlet—from the overflow es, because the inlet ball-valves are allowed to weak ; at the lavatory and bath taps, which, for nt of new washers, or because the human washers too careless about shutting off, trickle in harmony with the constant supply ; and at the scullery sink, where "greasy Joan doth skim the pot" or soak the crockery with the minimum of exertion and the maximum of water-waste—she prefers to let the water do most of the work. Is there any practicable remedy? An appeal to conscience is of little avail; and the cost of thoroughly efficient inspection would probably amount to more than the value of the water it would save. It would seem, therefore, that the most effective remedy—that of vigilance and compulsion —is one that cannot be applied. If it could, builders, who have to pay so exorbitantly for the water required in their work, might reasonably expect an abatement in the charges made by the Water Board, while the householder would find his virtue rewarded in a lowering of the general rate.

* * * *

In sequence to the suggestion in the "Evening News" that householders should themselves carry out minor repairs, our contemporary has published an illustrated article by a master-plumber showing how to deal with defective valves. His descriptions of very simple operations, and his rather formidable list of the tools required, will probably scare off most of those who had contemplated the elimination of the plumber. "A small hammer, a good screw-driver, a small pair of gas pliers, a pair of wire pliers, a pair of 9-in. 'footprint' grips, a good pocket-knife, putty knife, hacking knife, a 10-in. cold chisel, a small file, and a bradawl are all that are needed for the usual little repairs." But the average small householder, unless he happens to be afflicted with an itch for botching, will jib at the initial outlay on this plant and equipment, and will hardly regard it as a remunerative investment, even if he is his own landlord: if he is not, he will see no reason for becoming the landlord's agent for the impoverishment of the plumber. And if plumbers' kits are to be indefinitely multiplied, national economy does not seem to be greatly advanced. "Every man to his trade" is still a saw of might. But in truth the master plumber does no injury to his craft by making a simple operation appear formidable. Any one to whom such elaborate instruction for renewing a valve-washer is necessary has not sufficient intelligence to be entrusted with the job.

* * * *

It is always interesting, sometimes instructive, and often amusing, to read *obiter dicta* on architecture. A trace of each of these qualities is discernible (with the aid of a microscope) in the following passage from a column of light gossip in the "Leicester Daily Post." The writer intends "to refer indefinitely to a tendency amongst artistic people to belaud everything old and denounce as ugly almost everything which springs out of the modern brain—a fault which is probably responsible for the fact that architects are continually giving us rechauffés of old styles instead of evolving styles of their own, based upon new developments in the way of building materials and building methods." It is interesting to get this glimpse of the lay mind, instructive to note the insatiable craving for something new, and amusing to observe the writer's confidence in the ease with which architects could and would evolve "styles of their own" if artistic people were less prone to praise the old and condemn the new. But who are these "artistic people"? Futurists and Cubists might claim the description, but do not conspicuously come under the condemnation: for have they not, so to speak, "evolved styles of their own," and demonstrated what comes of the escapade? There is certainly a modicum of truth in the assumption that people,

artistic or not, find it convenient and safe to reserve their praise for what is old and of established reputation; but the tendency to blame what is new is not equally common, and is not, as our agreeable gossip seems to imply, a necessary consequence of praising or admiring what is old. Genuine æsthetic regard for what is old has for its logical sequence the like regard for similar characteristics in what is new, and this is the kernel of the matter, because a true estimate of artistic values is founded on principles that may be said to be unalterable within certain elastic limits.

* * * *

True, a building may be admired less for its form than for its time-long accretions of association. It may be venerable simply for its age, or it may be loved merely because it is familiar; but in either case the feeling it creates in the beholder is independent of æsthetic judgment; and to the blind worshipper of antiquity anything that is new and strange is disliked for no better reason than that it is an upstart and an intruder: which is no reason at all, but an instinct derived from a primordial ancestry that largely owed its preservation to a suspicious aversion from all unfamiliar things. On the other hand, the craving for novelty is as unwholesome as a perverted appetite for some fancy substitute for bread. Architects do not adhere to the old styles because "artistic people belaud everything old," but because it would be foolish to transgress the bounds prescribed by the wisdom of the ages, and because the essence of formal beauty is not variety, but unity in variety.

WORK AFTER THE WAR.

IN connection with the conditions now prevailing in the building trade and the difficulty of obtaining sufficient labour to complete existing contracts, it is interesting to note how the Local Government Board view the possibility of an unemployment problem on the cessation of hostilities. A circular emanating from Whitehall has recently been issued to local authorities, entitled "Execution of Works After the War." In this preliminary feeler the Government appear anxious to organise the known resources of both local authorities and private firms regarding works held up by the exigencies of the present struggle, and have under consideration certain definite questions which are closely related to raising capital for such enterprises, as well as desiring to ensure the distribution of labour throughout the country as a safeguard against the problem of unemployment. This is a step in the right direction, for Mr. Long must comprehend the magnitude of the problems confronting his department, and in this appeal he is sure of support.

Two forms accompany the circular. Form A deals with suggestions as to works which are needed for the area within the jurisdiction of the local authority, and which might be undertaken by them on the conclusion of the war. Form B deals with works contemplated in the area within the jurisdiction of the local authority by bodies or persons other than local authorities, so far as the local authority can obtain definite information. When the necessary facts are obtained it is the intention of the Local Government Board to establish a register of work which shall be both accurate and reliable. At the same time it is realised that it is impossible to forecast the position of the building trade at the end of the war, particularly as regards the supply of material or available capital, neither does it attempt to state how far prices for materials will be affected in the future. But it is conceivable that, when the issue of the war is finally decided, transport will be speedily available for carrying material, and in consequence prices will be materially decreased.

The making of a register of the works projected by local authorities offers few difficulties, for it is well within the power of such bodies to judge of the future requirements of their districts for the next ten years. In some instances the public works are of an immediate nature and have only been temporarily postponed at the desire of the Government. The works now in hand for private enterprise, and likewise temporarily checked, as well as works projected for the near future, offer many difficulties in the matter of a register, as the state of finance and the cost of raising capital is the dominating factor, so that any information that can be obtained cannot be regarded as binding the projectors to proceed with the works within a given time, if at all. Architects and contractors, however, will view the enterprise of the Local Government Board with satisfaction, for if a general idea of the character and extent of the works likely to be constructed is known the effect will be to ameliorate considerably the chaotic conditions in the labour market which inevitably follow a long war.

HERE AND THERE.

FOR quite a long time we have heard of Donington Hall, in Leicestershire, not without sharp misgivings about the manner in which Hur officers are so comfortably housed there; and having been thrown from obscurity into the fullest light o publicity it is well to know what manner of archi tecture this mansion is clothed in. A party o London journalists recently went forth to see, and one of them describes it as a hideous place buil about 1780, "in no known style, or, rather, in a jumble of every style." Architecturally, says thi writer, it is a crime. "'Utility' Brown, the mis guided man who put it up, chose with unerring instinct the worst site he could find. He had 90 acres of charming country to choose from, a par made up of the best of Midland scenery, waves o turf studded with noble old trees. He planted hi house in a hole, from which you can see nothing." That appears to be right enough so far as th placing of the house is concerned, but I would no hastily dismiss any house built "about 1780," fo that was a good period of house-building i England, a period when the Georgian style wa acquiring its most refined character and one migh count upon getting a well-designed house in an part of the country. Nevertheless, the Londo journalist tells us emphatically that Donington Ha is in "the most debased form of the Palladia style," with a lodge "of excruciating design, like bad doll's house in a mid-Victorian nigh mare"; and it may be all this and more. As a fac however, it was built in 1795, not by "Utility Brown ("Capability" Brown, who was then dead, no doubt the man intended), but by Willia Wilkins, at which name I pause, for thoug Wilkins's Classic is good enough, if not thrilling, witness the National Gallery, University Colleg and the Nelson Column at Yarmouth, his Goth makes one shudder—the very thought of his cou at Corpus Christi and his gateway at King College, Cambridge, is enough to put him beyo the pale. Donington Hall is verily in the Goth manner of Wilkins, and with that fact before us may prepare for the worst.

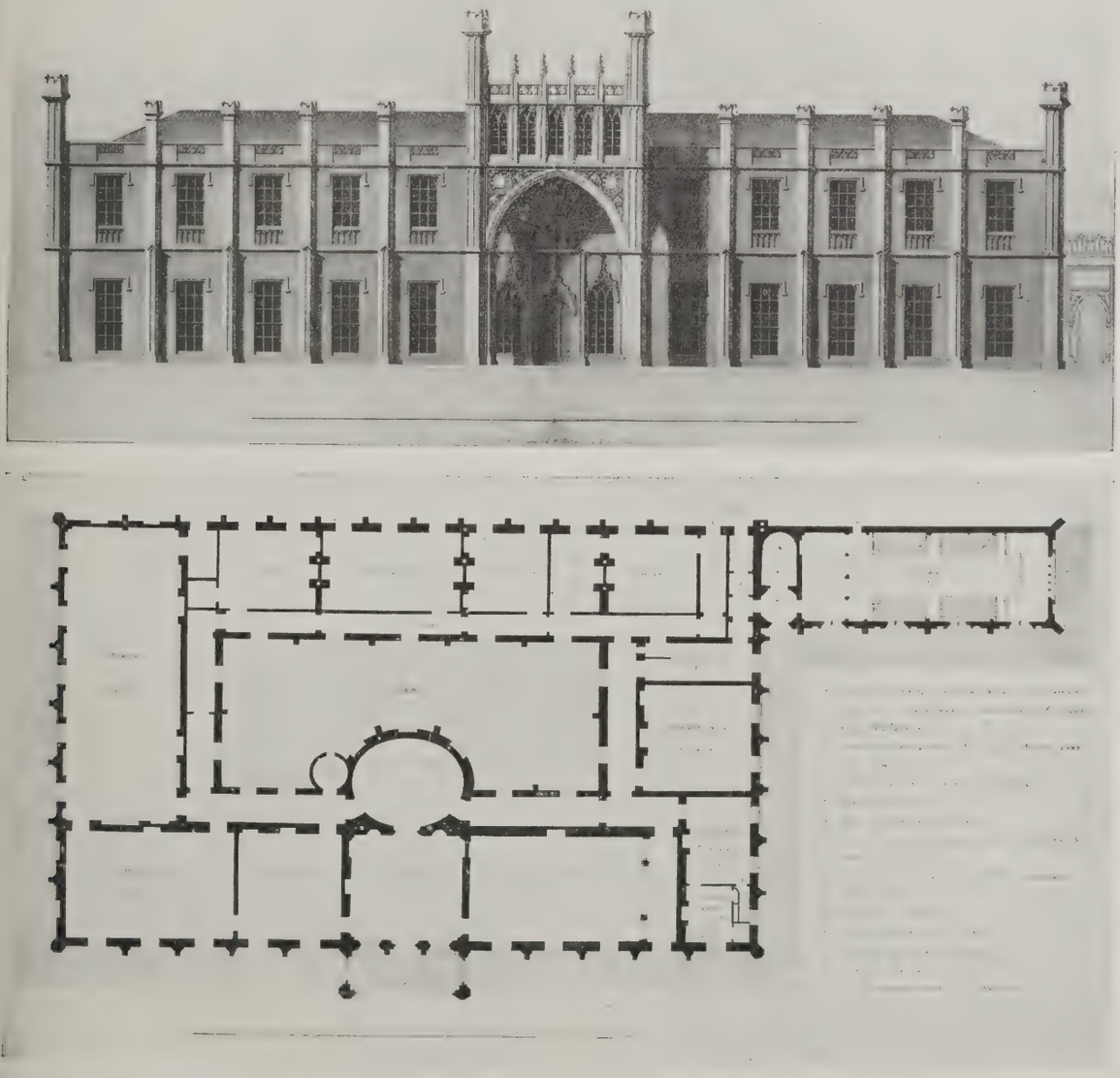
* * * *

During the century and more since it was bu this country mansion has undergone many chang at the hands of different owners, but there happa

to be preserved for us, in "The New Vitruvius Britannicus" which George Richardson published in 1808, the original elevation and plan as Wilkins devised them, together with a flattering description, and it is interesting just now to turn back to this folio record. The house, Donington Park as it was originally called, "a noble residence on the banks of the Trent twenty miles north of Leicester," was built for the Earl of Moira. It is described by the author of "The New Vitruvius Britannicus" thus: "The style of the front and entrance-hall is Gothic, adapted to a plan suggested by his Lordship, and most fitting to the scenery of the place. The house is equally convenient for the residence of either a large or small family; perhaps few are better calculated for the purpose of exercising the rights of hospitality, in which the noble possessor vies with his feudal ancestors. The principal rooms, namely, the Gothic hall, the dining-room, the ante-chamber, and the drawing-room, have a southern aspect; the library looks towards the west, and the breakfast-parlour towards the east. On this side a wing extends, in which is the chapel, and it is so situated as to screen the offices. The various offices in the ground-floor on the north side are very little below the common level of the ground, although the vaults under the south side of the house are entirely sunk, and are appropriated to the butler's department."

We can hold our own opinion about this "Gothic" mansion, but the elevation here reproduced will quake the soul of the most architecturally tolerant. Poor indeed is this deadly Perpendicular stuff of Wilkins. It has a fearsome mechanical look, and its only redeeming merit at the present time would seem to be that it is so thoroughly debased that even a Hun officer may be depressed by it. The plan, as Wilkins devised it, is a far more interesting affair. This is in accordance with "his Lordship's" ideas, and "his Lordship" would appear almost to have anticipated the planning of a modern hotel. Certainly the arrangement of the "Gothic hall," 24 ft. square, leading into an elliptical staircase hall, has the elements of good things in it, and there is a spaciousness about the principal rooms—the dining-room 48 ft. by 24 ft., the drawing-room 40 ft. by 24 ft., the library 72 ft. by 26 ft.—which is quite exhilarating. The central court, however, while providing facilities for lighting the surrounding corridor, was bound to prove a sorry place; nothing of the sunny *patio* here, but simply a back look at Wilkins's always dreary sand-faced cement. One little detail worth notice is the powdering-room in the right-hand corner of the front of the house. A warm bath and a water-closet are here provided—showing again that the noble earl was well ahead of his time.

UBIQUE.



THE ORIGINAL DESIGN OF DONINGTON HALL, NEAR LEICESTER, BY WILLIAM WILKINS.

A MODERN GOSPEL OF GOOD WORK.

THE Design and Industries Association, whose special aim is to bring about a better standard of taste in all things of common usage by drawing together the producer, the distributor, and the consumer, have issued a fourth pamphlet, written by Mr. Clutton Brock,* who, with great directness and vivacity sets forth his creed of work. The following are some interesting passages relating to the taste of the general public and those who control it:—

Beauty to most people consists, not in design, but in what they call "style"; and style changes as quickly as fashion in dress. Thus, people get a notion that high finish is inartistic, as it is when it is finish for the sake of finish; they suppose that there is some mysterious virtue in the roughness of peasant art; and they will buy objects in which this roughness is imitated for commercial purposes, objects that are merely badly made. . . .

Good design and good workmanship produce beauty in all objects of use. That is the common sense of the matter. But human beings never attain to common sense unless they aim at something beyond it. There must be a kind of religion of workmanship, if workmanship is to be good; and a religion of design, if there is to be good design. It never is good unless both designer and workman do their best for the sake of doing it. What we need most in England now is this religion; and we need a condition of things, a relation of all the parties concerned, in which it will be possible to do good work for the sake of doing it. When we have that, we shall have art soon enough. And it is not an impossible or unnatural relation, for it has often existed in the past.

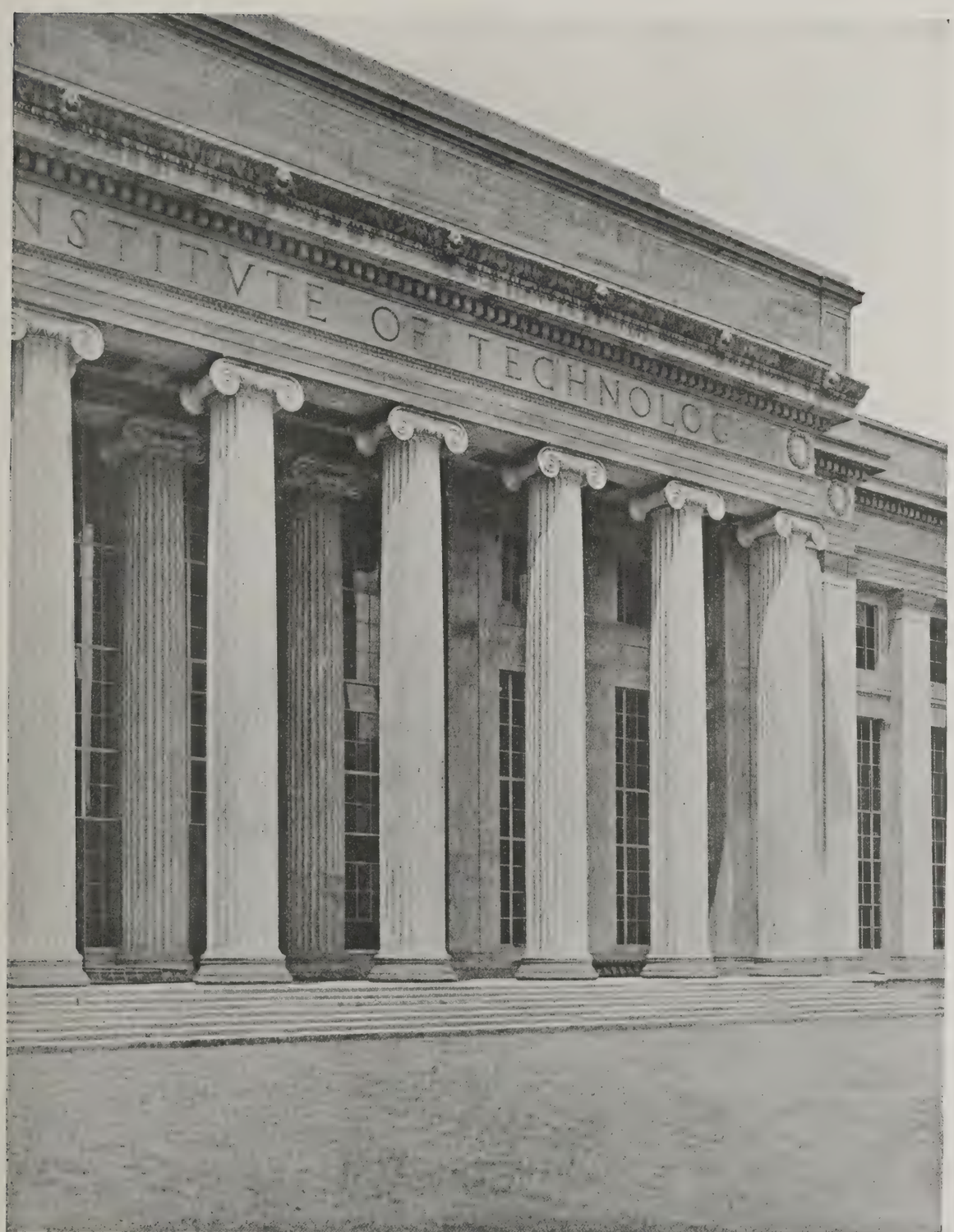
The delight in doing a job well for its own sake is just as natural to man as greed or laziness or fraudulence. There is a natural force in him making for good work, as there is a natural force making for bad. Unfortunately the force making for bad work is helped, at present, in England, by circumstances which can be overcome, and by a body of mistaken opinion which can be refuted. But the circumstances can be overcome only if the opinions are changed. Thus, both manufacturers and shopkeepers often believe that they are utterly at the mercy of the public taste, and that the public taste is quite irrational; the public does not want good design or workmanship; the only way to success is to tempt it with continually changing fashions. Unfortunately such beliefs become true, if acted upon, in trade as in politics. The public can easily be demoralised in both cases. It has not a fixed and certain taste of its own. It does not know what it wants, but is subject to suggestion; and if it is beset with articles ill made and ill designed but following some new and violent fashion, it will come to believe that these are the articles which it wants. Tradesmen, like politicians, can be demagogues, and can make their fortunes by demagogy. But there is promise as well as danger in the fact that the public taste is plastic. The mistake in England has been the belief that it is plastic only in one direction, or, rather, the belief that it is not plastic at all, but always in favour of plausible rubbish. Producers think they are giving the public what it wants, when really they are forcing upon it what they think it wants. The fact is that they can force upon it what they choose to give it. This is not true of the individual producer. He probably is not strong enough to withstand any general tendency of the mass of producers; but still it is the tendency of the producers that controls him, not the tendency of the public. So producers in the mass can control their own tendency, since they can persuade the public that it likes what they choose to give it. Therefore the question is whether they shall blindly, and without any forethought or organisation, submit to a general tendency imposed upon them by the worst among themselves, or whether they shall exercise their will in combination to persuade the public that it likes what is good. The future of all English industry depends upon their decision. . . .

It has been proved again and again, as Morris himself confessed, that individual artists of genius, though they may make a small public for themselves, cannot affect the condition of a whole industry; and that art schools, though they may produce armies of trained students, cannot force an industry to use those students, cannot even train them so that they shall be useful to any industry. At present the art-student is a separate genus, something quite different from the artist, and seldom able to become one. The country is full of art-students who have never become artists, who remain capable only of producing art-students' work, or of teaching others to produce it. Manufacturers are impatient of them, and they are contemptuous of manufacturers, both with some reason. For the vice of our artistic education is that it can turn a youth, with no artistic capacity whatever, into a very skilful art-student; while the vice of our industries is that they do not want artistic capacity. They only want designers who will do quickly, exactly, and cheaply, what they are told to do. Thus the designer is the slave, not one of the captains of industry. Indeed, industry has no captains at all, except, perhaps, the commercial traveller. It is he who is supposed to know what the public wants. It is his taste which controls design; and all the while it is not his taste at all, but what he supposes to be the taste of the public. And the public buy what they suppose to be the taste of someone else, so that design is not controlled by any real taste at all, by any actual likes or dislikes, but only by a general desire to follow some imaginary standard.

This system of unreality can only be destroyed by the collective will of all those who are concerned in the industries where it prevails. We can have neither good workmanship nor art unless objects are made according to the liking of someone, and it is useless to try to make them according to the liking of the public. That only means a process of blind experiment; for, since the public do not know what they like, no one, not even the commercial traveller, can know. Therefore there is nothing for it but to produce articles in which the liking, the taste, the zest, of the producer is expressed. That is the only way to excellence; and it can only be done, as I have said, by co-operation among manufacturers, designers, and shopkeepers.

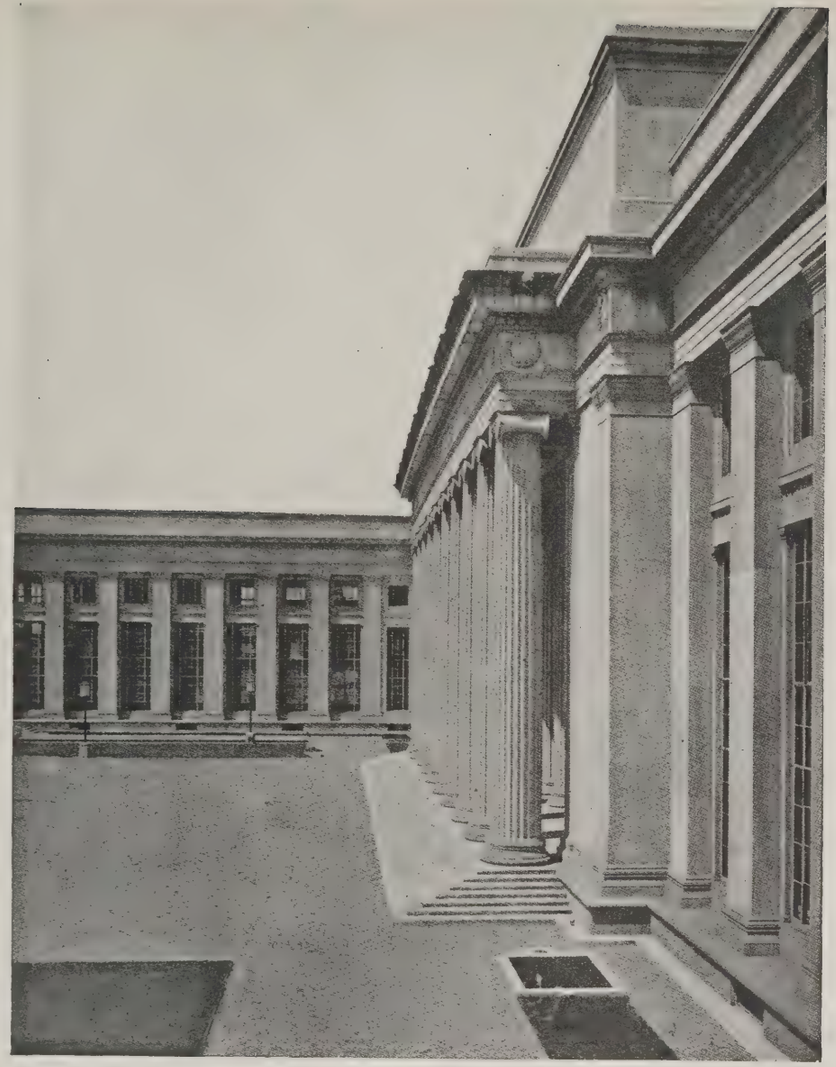
There is, at present, in England, far more jealousy between competing manufacturers than in Germany or America. This jealousy is itself a symptom, not only of a low conscience, but of a low state of enterprise and capacity, of timidity rather than of adventure. For in the long run the prosperity of a country depends upon the general excellence of its industries; and general excellence cannot be attained by blind and jealous competition. In this matter manufacturers must learn from men of science. Science advances rapidly because men of science are concerned for its advance rather than for their own pockets or reputations. So

* "A Modern Creed of Work." London: Design and Industries Association, 6, Queen Square, W.C. Price 3d. post free.

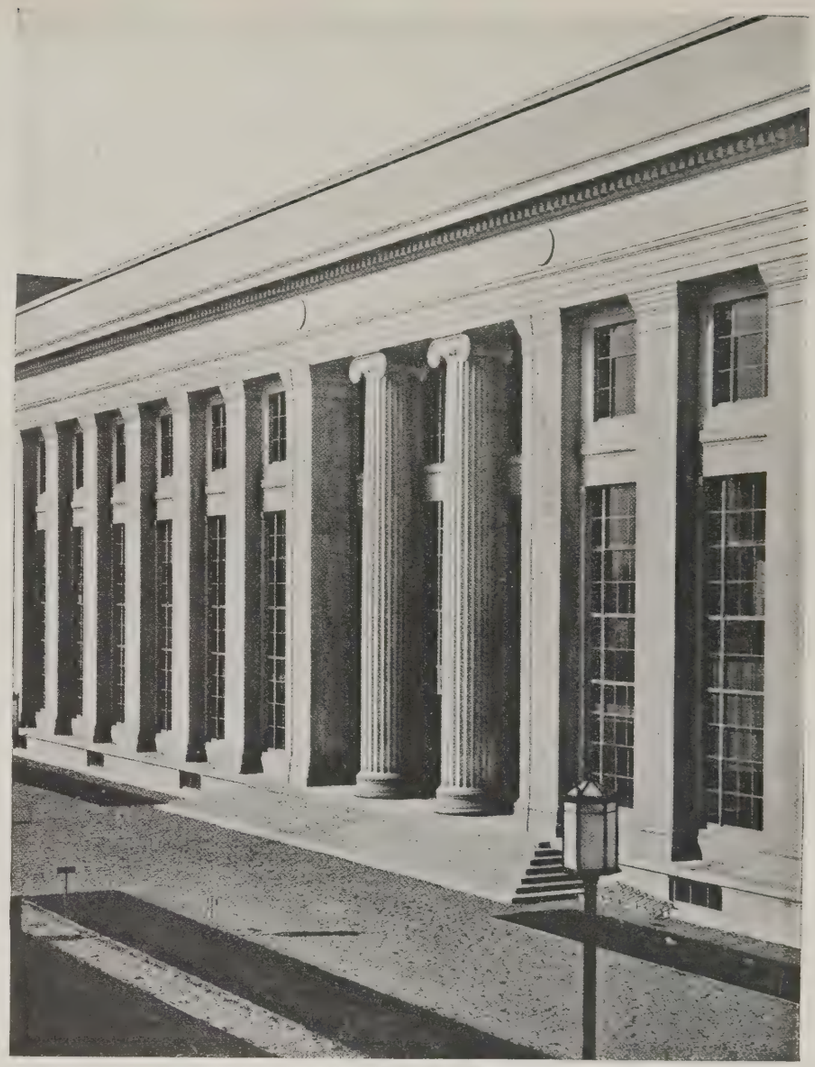


MODERN AMERICAN ARCHITECTURE (SERIES II.). VII.—NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.: DETAIL OF ENTRANCE PORTICO.

WILLIAM WELLES BOSWORTH, ARCHITECT.



View of Portico looking across Principal Court.



Detail of Entrance on Lateral Axis of Principal Court.

MODERN AMERICAN ARCHITECTURE (SERIES II.). VIII.—NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

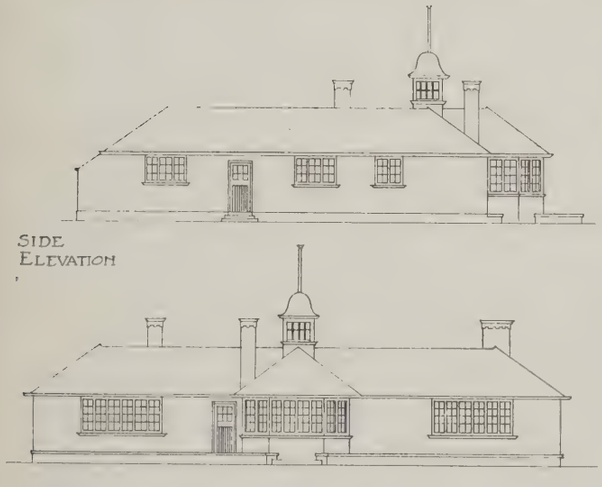
WILLIAM WELLES BOSWORTH, ARCHITECT.

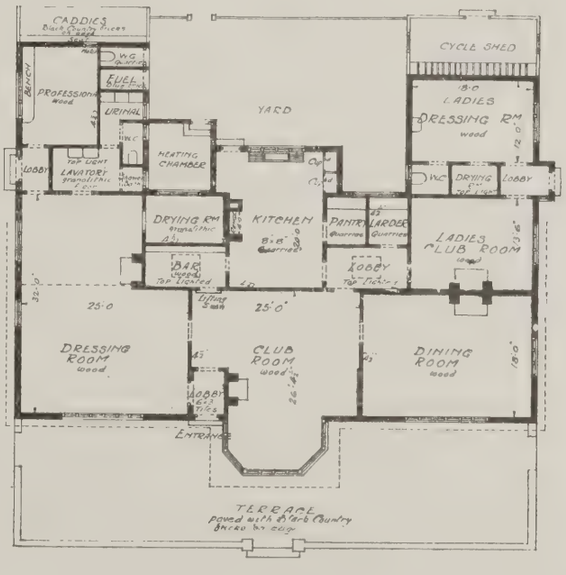


LONDON FAÇADES. XIII.—No. 65, LINCOLN'S INN FIELDS, W.C.

THOMAS LEVERTON, ARCHITECT.







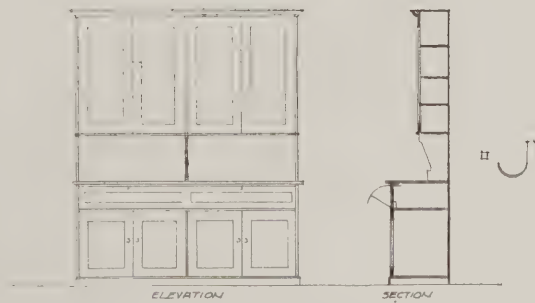
PLAN

CURRENT ARCHITECTURE (SERIES III.). XLIX.—GOLF CLUB HOUSE, EDGBASTON, BIRMINGHAM.

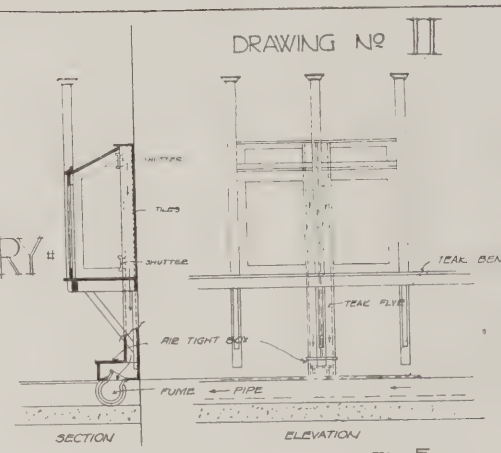
BUCKLAND, HAYWOOD AND FARMER, ARCHITECTS.

JUNIOR CHEMISTRY LABORATORY

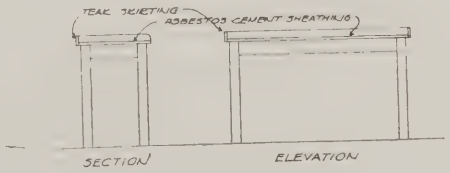
DRAWING Nº III



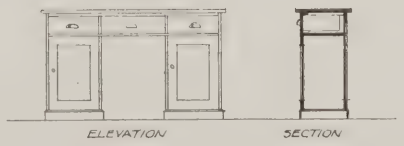
APPARATUS CASES J



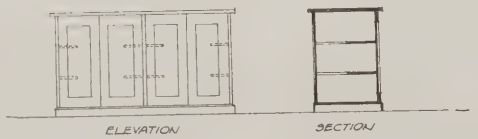
DOUBLE CHAMBERED FUME CLOSETS E



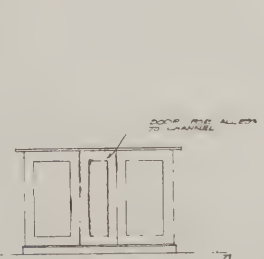
BLOW PIPE BENCH H



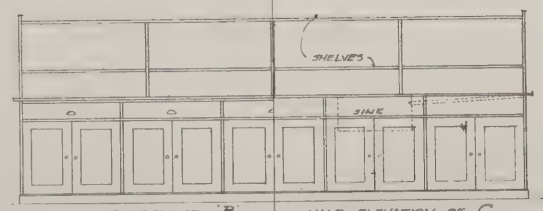
TEACHERS DEMONSTRATION TABLE D



BENCH FOR DRYING OVENS G

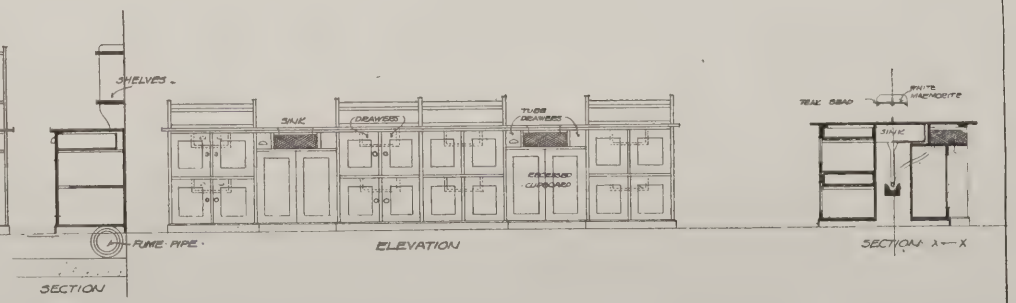


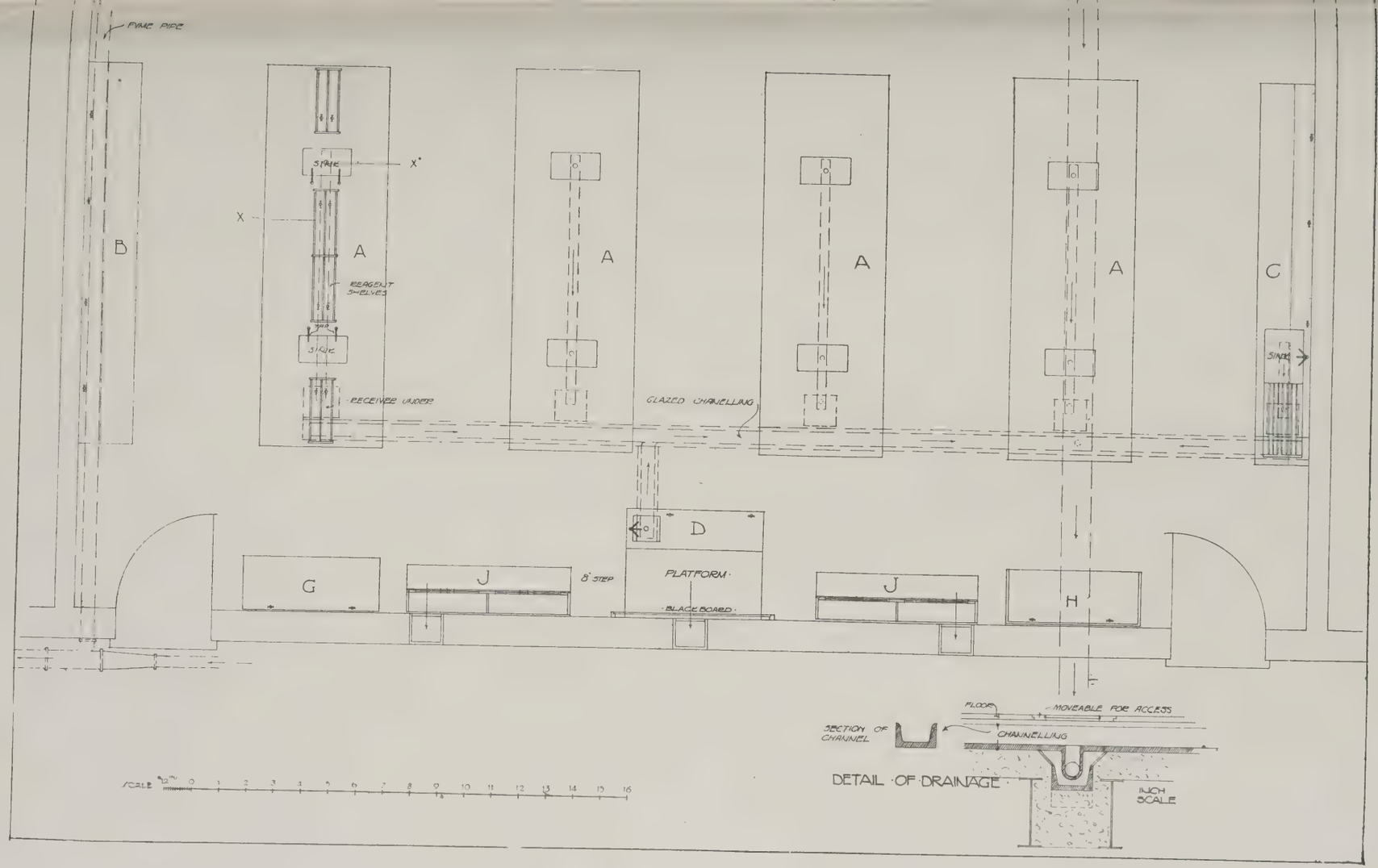
END ELEVATION OF BENCHES A



HALF ELEVATION OF B HALF ELEVATION OF C

WALL BENCHES B & C





SCIENCE AND TECHNICAL BUILDINGS. XII.—JUNIOR CHEMISTRY LABORATORY, CARDIFF TECHNICAL INSTITUTE.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.

industry will advance in this country, both in quality and in prosperity, when all concerned in it aim at a general excellence. And apart from all material questions, to aim at a general excellence, to forget yourself in that aim, is the only way to enjoy your work, and so to make life worth living. Commerce is a dreary business when its one aim is to make money; how dreary many of our articles of commerce prove, for they are made only to sell, and they have an ugliness which betrays the joylessness of all who are concerned in the production of them. They will not be able to compete, already they are failing to compete, with articles from other countries, which have more of the joy of a public spirit in them, and therefore more adventure, more sparkle, more beauty. . . .

So the cause of the Design and Industries Association means more than a little pleasure for cultured people. It means what we call the social question. It means ultimately a change in the relations between producer and consumer; it means, in fact, the future of civilisation. For you cannot have civilisation where the lives of millions are sacrificed to produce rubbish for thousands who do not enjoy it when it is produced. That means a perpetual conflict growing always more bitter until it leads back to barbarism. This is not a political matter and it cannot be settled by a political struggle. So long as the workman has to produce rubbish he will not be satisfied with his work or his life, no matter how large his wages may be or how short his hours. He will be satisfied only when he has work that will satisfy his soul; and he will get that only when the public want it from him. . . .

THE PLATES.

Massachusetts Institute of Technology.

THE two plates show further views of this fine building. An extended description of the scheme was given in our issue for last week, and there is nothing now to add to it. But we would especially draw attention to the grand scale of the main entrance portico, and the scholarly refinement of its details.

No. 65, Lincoln's Inn Fields, London, W.C.

This house was erected in 1772 for Henry Kendall from designs by Thomas Leverton. The elevation, of stone, exhibits that refinement which is characteristic of nearly all late eighteenth-century work. The ground-floor storey is slightly accentuated by deep joints, and in this way forms a good base for the plain walling above. The windows have neither hood nor sill, excepting the central window of the first floor, which constitutes the focus of the whole front, the doorway being kept quite subservient. A blind balustrade extends across the façade at first-floor level and is repeated in the parapet, while between the second and third floors a strong cornice and delicately fluted frieze tie the whole together.

Golf Club House, Edgbaston, Birmingham.

A golf club house should be kept as simple as possible, being a very unpretentious type of building. It offers opportunities nevertheless for very pleasing design, as the Edgbaston example, by Messrs. Buckland, Haywood and Farmer, serves to show. The walls of this little building are of brick, lime-washed, the roof being covered with tiles. The arrangement of the interior can be studied from the plan.

A Junior Chemistry Laboratory.

To the person interested in what is called the "artistic" side of architecture there is nothing very alluring about a laboratory. But the proper equipment of a building is just as necessary as good design in the elevations, and it is therefore essential to success that the utmost attention should be paid to this aspect of an architect's work. In presenting a series of plates of science and technical buildings we have had this special point in view, and as the trend of opinion is more and more in the direction of the improvement of our technical equipment and secondary education after the War, we feel that these plates are serving a very excellent purpose. This week we illustrate the junior chemistry laboratory in the new Technical Institute at Cardiff by Messrs. Ivor Jones and Percy Thomas. The plate needs very little description, as both the lay-out of the laboratory and the details of its equipment are clearly shown. As will be seen, there are four central benches for students to work at, with four double-chambered fume closets adjacent on one of the long walls, together with two wall benches, a blow-pipe bench, a bench for drying ovens, and apparatus cases; the whole being under surveillance from the teacher's demonstration table, which has a platform and blackboard behind. Altogether it is a very admirably planned laboratory for elementary chemistry.



MASSACHUSETTS INSTITUTE OF TECHNOLOGY: ONE OF THE MINOR COURTS.

NEW YORK CITY'S NEW BUILDING REGULATIONS.

A frequent comment with respect to the building zone and heights resolution passed by the New York Board of Estimate on July 25 is that it constitutes the most important step in the development of New York City taken since the construction of the subways. That this law, which became effective on its passage, received a total of fifteen votes in the Board of Estimate with but one in opposition to it, indicates a unanimity of opinion regarding its effect on the city's future that undoubtedly extends to the general public. The new law is confined closely to the phases of building it is designed to regulate and control, which are the limitation of building heights, with the related one of court areas, and the establishment of retail, residential, and manufacturing zones, in which may be constructed only such buildings as belong to these respective classes.

The resolution does not entirely prevent the building of tall structures, but it requires that they shall not present an unbroken façade for a height of more than two and one-half times the width of the street on which they front, if erected in the lower section of Manhattan, or in what is generally termed the office building and financial district. In residential sections buildings will be permitted only as high as the width of the street on which they face. Tenement and apartment houses can be built one and one-quarter, or, in some cases, one and one-half times as high as the width of the street on which they front. A height of twice the street is allowed for buildings in the remaining portions of the more intensively developed commercial and industrial sections in a broad area extending through the centre of Manhattan Island from the lower office and financial section north to Fifty-ninth Street. Buildings carried to greater heights than those indicated for the various zones must be reduced in floor area by setting the walls back from the building lines at the heights specified.

Various exceptions to the general rule for determining the allowed heights of buildings are noted; for example, in the case of a lot located in the office and financial section surrounded by tall buildings, a building may be erected thereon to the average height of the buildings adjoining it on either side and the building across the street. This is but one of a number of exceptions in which may be discerned an attempt to prevent, in so far as is possible, an injustice being done to the owner of undeveloped property in districts where the law will work the greatest changes.

Since the establishment of zones was accomplished in a manner intended to create the least possible confusion and disturbance in the present arrangement and location of buildings falling under the various classifications, it naturally follows that the designated districts are somewhat scattered and irregular in form, so that the zone map of Manhattan and other boroughs showing commercial, tenement house, residential and manufacturing districts gives ocular proof of the accidental and indiscriminate manner of development that has obtained in New York city heretofore.

What might perhaps be considered an indication of weakness or reluctance to take the initiative, on the part of the Commission whose report formed the basis of the new law, is the establishment of an "undetermined" district. This area, which can be used for any purpose except that of erecting high office buildings, comprises most of the water front and adjoining property in Manhattan and other boroughs, and certain other sections in all boroughs where the development promises to be industrial. These undetermined districts may be built up as residence or business districts, and will be subject to future regulation, according to present plans, when their character is more fully developed. This would seem to be permitting these sections to go through the same undirected, haphazard sort of evolutionary process that has been so disastrous to other sections, and has constituted the chief reason for the appointment of the Building Restrictions Commission in the first instance. Why it should not now determine proper lines along which the development in these various unrestricted areas might proceed with greatest advantage to both individual owners and the sections in general is not entirely clear. To the average person it would seem in fact that the most advantageous time to impose restrictions would be before development had taken place rather than after its character had been determined by chance, with strong probability of a change being necessary in a considerable portion of the uncontrolled section. It is to correct mistakes due to lack of restriction and direction that the new law has been passed, and to leave part of the metropolitan area uncovered by its provisions gives to it something of the aspect of an incomplete measure.

The selfish instincts which are generally supposed to exist to a greater or less degree in all human beings (the "American Architect" comments), are inevitably aroused by conditions such as were created by the threatened passage of this measure, and that a sorry exhibition of greed to be satisfied at the city's expense was presented, is perhaps what might have been expected. If the new law were to be of benefit to the city at large, as was generally conceded it would be, the measure of that benefit would be the degree of thoroughness or completeness with which it could be applied. In other words, the greater the part of the city's development, present as well as future, which could be controlled by these restrictions, the greater would be the advantage to the community. Notwithstanding this obvious fact, with the passage of the law impending we ("American Architect") find individual owners—many of them putative leaders in the financial and business affairs of the city—overwhelming the Building Department with plans for structures, none of which could be constructed under the new law. As a matter deserving special notice, the striving for selfish advantage which building under the old law was thought to afford was so great that during the week preceding the law's adoption the records for plans filed in the Building Department of Manhattan for an equal period were greatly exceeded —a rather sinister effect.

If the actual operation of this law results in maintaining such conditions of street traffic that the city's chief hotel, club, theatre, and shopping centres may be permanently maintained in the locations best suited to them; if stability is given to real estate values; if comfort and convenience are afforded the public generally in anything like the degree that is now confidently expected, the statement that this measure marks a new epoch in the physical development of American cities is in nowise exaggerated.

"THE ARTISTS' RIFLES JOURNAL."

The Artists' Rifles Regimental Association includes a good many architects and artists, some of them well-known men. It is of interest, therefore, to draw attention to the journal of the Association, the "Artists' Rifles Journal," the first number of which (August) has just been issued, price 6d. Attractively got up and illustrated, it is intended to keep members, old and new, in touch with the regiment, to support British interests in all parts of the world, and to present special information which shall be of use to members in a professional capacity. Lieut.-Colonel H. A. R. May, C.B., V.D. (late O.C. 1st Battalion in France), gives an account of what the Artists' Rifles have done since mobilisation. He says:

"They have trained and supplied either in France or England upwards of 3,000 young officers. Some have been supplied to every branch of the service, and to every regular Infantry regiment in the British Army. It is estimated that upwards of 100,000 soldiers are being led and trained by the young officers so supplied, and young officers are now being trained and supplied by the corps, both in England and France, at a rate approaching a total of 400 each month. Besides this, the machine gun sergeant-instructors have helped to train at least 10,000 officers (both naval and military), N.C.O.'s, and men of the Army to be themselves M.G. instructors, and are continuing this training at the rate of nearly 1,000 a month. In addition, 300 men attached from other branches of the service and 600 young officers from other corps have received a preliminary training from the Artists' Rifles. The following distinctions have been won by men of the regiment: 2 V.C.'s, 1 C.B., D.S.O., 38 Military Crosses, 2 M.V.O.'s, 1 D.C.M., 4 Royal Victorian Medals, Médaille Militaire, 1 Royal Humane Society's Medal for life saving, 1 medal of the R.S.P.C.A. for saving animal life, besides 90 being 'mentioned in dispatches.'"

The editor of the "Artists' Rifles Journal" is Mr. J. H. Elder-Duncan (Cadet 2/Artists' O.T.C.), a former editor of this Journal. The headquarters of the Association are at Duke's Road, Euston Road, W.C.

THE "SUPER CINEMA."

A most sumptuously fitted and very handsomely decorated picture palace which was opened last week, and is named the "Super Cinema," is situated in Cambridge Circus, Charing Cross Road, London, W.C., and has been built from the designs of Mr. F. Edward Jones, architect, of Mecklenburgh Square. There are twelve boxes, and the large auditorium on the ground floor and capacious galleries facing the screen are filled with luxurious upholstered tip-up seats. A fine orchestral organ, whose gilded pipes form a dignified decorative feature, has been installed. Tea, rest, and crush rooms, and an extraordinarily efficient system of ventilation, render this cinema one of the most comfortable buildings in London. Gilded ribs divide the arched ceiling into panels, which are decorated pictorially, with cerulean effect. All the wall-surfaces are decoratively treated, and the fronts of the balcony and boxes, as well as the escutcheons on the cornice, are richly gilded. The fibrous-plaster work and decorations were executed by Messrs. John Tanner and Son, the fibrous-plaster specialists, of

Horseferry Road, Westminster, S.W., and 3 and 5, Gill Street, Liverpool, who, we understand, have been also entrusted with the fibrous-plaster work and decorations of the new Chatham Empire Cinema, of which Mr. Herbert H. Dunstall, F.S.I., A.R.I.B.A., of Rochester, is the architect.

SOUTHPORT INFIRMARY EXTENSION.

The new Pavilion for Wounded Soldiers and Sailors which has been erected as an adjunct to the Southport Infirmary from the designs of Mr. F. P. Halsall, was opened last week by the Earl of Derby.

The buildings have been erected upon the land lying along the Curzon Road side of the Institution, and in continuation of the Swimmell's Ward Block erected a few years ago. A permanent corridor, connecting this ward block with the children's corridor, has been erected as planned previously, and this forms the main service corridor from the kitchens to the New Pavilion. The new temporary buildings comprise large double ward pavilion to accommodate 120 beds, sixty in each ward. The division wall consists of a series of arched openings with the lower portion to a height of about 4 ft. 6 in filled in solid; by which arrangement each bed has the undoubted comfort and convenience of a wall behind the head of the patient, while the upper portion being open provides excellent through ventilation, and also gives a pleasing vista as one looks down the wards.

At the end adjoining the Infirmary proper are situated the kitchen, nurses' sitting-room, linen room and larder, all completely fitted up for their various uses with shelves, cupboards, etc. The receiving room is at the opposite or northern end of the wards, and from this leads a wide corridor, on each side of which are bathroom, lavatories, etc., one suite for each ward. From this corridor a spacious octagonal vestibule gives access to the wards, and also right and left doorways lead to the dining-room and recreation-room respectively, the latter being supplied with two billiard tables and other furnishings; while the former is fitted with collapsible tables and forms to accommodate about 100 men. About the centre of each ward on the outside wall is a nurses' pantry or suite room, each cut off from the ward by ventilating passages. One of the existing buildings has been adapted for a large clothing store and fitted with lockers, etc. The new wards are so situated as to give easy access to the operating theatre. The windows are wide and lofty and give ample light, each alternate window being carried down to the floor and opening outwardly as French casements, so as to give an abundance of fresh air in hot weather. A complete system of heating by low pressure hot water is provided, and a separate hot water apparatus for sanitary purposes is also fitted up. The whole of the buildings are lighted by electricity, and ample fire appliances have been provided. The ceilings and roof timbers of the wards, corridors, etc., are distempered white, and the walls tinted a pale green, a light and cheerful appearance thus being obtained.

The whole of the work has been carried out by Mr. J. G. Wilkinson, builder, from the plans and under the supervision of the architect, Mr. Francis P. Halsall, A.R.I.B.A.

POLES, WIRES, AND PROPERTY

The following correspondence relating to the Telegraph (Construction) Bill has passed between the President and the Postmaster-General:—

The President's Letter.

9, Conduit Street, W., August 7, 1916.

To the Right Hon. J. A. Pease, Postmaster-General,—

Sir,—The Telegraph (Construction) Bill has only just been brought to my notice, and on behalf of the Royal Institute of British Architects I beg to enter a protest against the extraordinary powers which are therein sought for. Such drastic powers over property should surely not have been asked for without more publicity being given to the proposals, nor should the Bill be passed before the most careful consideration has been given to the arguments which, in the public interest, as well as in that of owners of property, may be brought against it.

It appears to me that the future development of land and property may be seriously injured by owners being compelled to submit to the presence of poles and wires upon their properties.

The considerable damage which frequently occurs from the attachment of these poles to the roofs and walls of buildings, as well as their unsightliness, appears to call for very serious and detailed consideration before taking steps to bring into force an enactment the working of which may be very oppressive.

I hope, therefore, that when the Bill reaches the Committee stage a hearing will be given to those whose interests will be so seriously affected if the Bill becomes law.—I am, Sir, yours obediently,

ERNEST NEWTON, President R.I.B.A.

The G.P.O. Reply.

General Post Office, London, August 10, 1916.

To the President R.I.B.A.,—

Sir,—I am directed by the Postmaster-General to refer to your letter of the 7th instant, and to say, as was explained over the telephone last Monday, the Telegraph (Construction) Bill was printed on July 19 and made public in the ordinary way, and he would regret if it was thought there was any desire on his part to forestall representation on the subject. He would explain that the Bill does not originate in any alteration of policy on the part of the Post Office. It has been rendered urgently necessary by a small minority of owners of property in making extortionate demands in respect of indispensable facilities for the maintenance and extension of the public telegraph and telephone services. Since the additional income-tax and other burdens were imposed by the recent War Budgets the number of such demands has rapidly increased. There are attempts on the part of those making them to evade their share of the public burdens and to transfer it to their fellow-citizens. At the same time these persons are enjoying the use of the public telegraph and telephone services on the same terms as those who make no such attack upon national interests. Labour is not available under present conditions for needless removals of plant nor for the adoption of circuitous routes, where these are available, with consequent unnecessary additions to capital and annual expenditure.

The object of the Bill is only to give a right of appeal against unreasonable refusals and extortionate demands on the part of the public against unreasonable or undesirable proposals on the part of the Postmaster-General, and it proceeds on the principle that there should be an appeal to an impartial tribunal.

The consent of owners as well as lessees and occupiers must still be sought under Section 21 of the Telegraph Act, 1863. In the event of difference as to whether a consent is unreasonably withheld, the Postmaster-General will only be able to proceed with his works if he gets a decision from the independent tribunal established under Sections 3 and 4 of the Telegraph Act, 1878. This tribunal has proved satisfactory during thirty-eight years and no reason is seen for altering it. The tribunal can refuse the Postmaster-General's application altogether, if it thinks just, and can impose upon any consent "such pecuniary or other terms, conditions, and stipulations as it may think just."

The provisions for the protection of persons interested in property which are contained in the Telegraph Act, 1863, will, except as to the right of appeal conferred by the Bill, remain unaffected, and this has now been made perfectly clear.

Special protection is given by Section 30 of the Telegraph Act, 1863, as regards development of land and property. The section confers on any persons interested in any land or building and desiring to build upon or use the land or building in any manner in which it was not actually used when the telegraphs were placed there an absolute power to require the removal or alteration of the telegraphs by and at the expense of the Postmaster-General.

The question of damage is dealt with by Section 7 of the Telegraph Act, 1863, which provides that the Postmaster-General shall make full compensation to all bodies and persons interested for all damage sustained by them by reason or in consequence of the exercise of the Postmaster-General's powers, the amount of such compensation to be determined in manner provided by the Lands Clauses Consolidation Acts, 1845, for the determination of the amount of compensation for lands taken or injuriously affected.

It is hoped that this statement will make it clear that owners, lessees, and occupiers of property will be able to impose all reasonable conditions, and that in particular you will see that there is no ground for your apprehension that restriction will be placed upon building improvement or development. I am to add with reference to your mention of poles on roofs that it is not the policy of the Post Office to erect heavy overhead lines of exchange telephone wires. Nearly the whole of such plant in London and other urban areas was acquired from the National Telephone Company. With the engineering methods now available the economy in maintenance charges effected by placing the lines under ground counterbalances the heavy cost of underground construction if the number of wires is large. The transference of existing heavy lines to new underground lines was in progress before the war, but it can only be effected gradually owing to the heavy expenditure and large amount of labour required. Where only relatively few wires are concerned the cost of underground construction is prohibitive, and where wires used for long distance telephone calls are involved it is necessary to use aerial lines to obtain the highest electrical efficiency. You will see, therefore, that there is no reason for apprehending any substantial increase in the number of roof standards.—I am, Sir, your obedient servant,

F. G. MILNE, for the Secretary.

[For comment on this correspondence, see the opening paragraphs on p. 106.]

ROAD BOARD'S ANNUAL REPORT.

The annual report of the Road Board for the year ended March 31, just issued, states that applications were made for £310,261, of which £297,038, or 95.73 per cent., was for "improvement of road crusts." The advances applied for show a decrease of £1,691,003 as compared with 1914-15 and of £2,283,544 as compared with 1913-14.

Grants and Loans.

The following table shows in summary the advances indicated, made and paid during the past year, and also the aggregate from the constitution of the Board up to March 31 last:

GRANTS.	United Kingdom.
Made to March 31, 1915	£3,967,317
Made in the year ended March 31, 1916	275,140
	4,242,457
Indications outstanding at March 31, 1916...	528,073
Total grants made and promised	4,770,530
Payments under grants to March 31, 1915...	2,158,989
Payments under grants in the year ended March 31, 1916	499,157
Total payments under grants	£2,658,146
LOANS.	
Made to March 31, 1915	£885,780
Made in year ended March 31, 1916	94,323
	980,103
Indications outstanding at March 31, 1916...	483,783
	1,463,886
Loans repaid	305,239
Total loans made and promised, less repayments	£1,158,647

Nature of Improvements.

The grants and loans made up to March 31 last have been made in respect of the following different classes of improvement work:

CLASSIFICATION.	During year ending 31st March, 1916		Total to 31st March, 1916.	
	Grants.	Loans.	Grants.	Loans.
	£	£	£	£ s.
Improvement of road crusts	265,268	86,323	3,253,444	947,712
Road widenings and improvement of curves, gradients and corners	574	7,500	293,744	26,843
Road diversions	1,250	—	69,895	4,060
Reconstruction and improvement of bridges	4,071	—	86,525	280
New roads and bridges	3,977	500	538,849	1.208
Total	275,140	94,323	4,242,457	980,103

Limitation of Expenditure.

In February, 1916, after consultation with the Treasury, the Board sent a circular letter to county authorities in Great Britain, pointing out that it had been in communication with the Treasury as to the policy to be observed in regard to applications for advances towards the cost of road crust improvements to be carried out during the financial year 1916-17, and that it had been agreed that new grants or loans to an aggregate sum not exceeding £200,000 might be made out of the surplus at the credit of the road improvement fund. The grants and loans would be confined mainly to expenditure on tar treatment of important roads, either in the shape of surface dressing or pitch grouting or tar macadam. It had been brought to the notice of the Board by the Ministry of Munitions that certain products obtained from the distillation of crude tar are of great importance in connection with the supply of high explosives, and on that account it was desirable to encourage the use of refined tar by highway authorities. Apart from this, however, the Board considered that at the present time, when it is desirable to economise expenditure as much as possible consistently with adequate maintenance, a surface dressing of tar is generally the most effective and cheapest method of preventing disintegration, and thereby prolonging the effective life of a road crust, provided that the surface is in sufficiently good condition to justify the application of the tar dressing. No grant would be made for the use of crude tar. The Board has proceeded with the distribution of the £200,000 on the terms mentioned. The decision that advances should be confined mainly to expenditure on tar treatment of important roads necessarily limited the area of distribution, and practically the whole of the money will be absorbed by the needs of the main county roads in Great Britain, which are in suitable condition for tar treatment.

Special War Work.

The Board has continued the work which it undertook after the outbreak of war at the request of the Army Council, namely:—(1) To supervise and arrange fo the construction and maintenance of new roads and the improvement of certain private roads in several districts for military purposes in connection with camps and otherwise; (2) to arrange with highway authorities for improvements on public roads, mainly at the cost of the Army Council, required for military purposes, and to supervise the execution of the improvements required; (3) to settle by negotiation with highway authorities the amounts payable by the Army Council in respect of damage caused by extraordinary traffic in connection with military purposes. This work has considerably extended, especially in connection with military camps, and similar work has with Treasury approval, been undertaken for the Admiralty and the Ministry of Munitions. The total estimated expenditure on works sanctioned up to June 30 by the various Departments which have been or are being carried out by or under the supervision of the Board, including expenditure for reinstatement of roads damaged by extraordinary traffic and which have formed the subject of claims against the Departments concerned, is £1,809,621. In some cases the improvements required are desirable in the interests of ordinary public traffic, and in such cases the Board and the highway authorities concerned are contributing to the expenditure. The aggregate amount of the estimated cost of the improvements on public roads which have been sanctioned by the various Departments up to June 30 and the contributions thereto of all the authorities concerned are £1,051,131.

CHARING CROSS BRIDGE.

A Board of Trade Order under the Special Acts (Extension of Time) Act, 1915, is gazetted directing that the time limited by Section 6 of the South-Eastern and London, Chatham, and Dover Railway Act, 1909, for the compulsory purchase of lands required for the widenings Nos. 1 and 2 authorised by Section 4 of the South-Eastern and London, Chatham, and Dover Railway Companies Act, 1900, and for the construction of those widenings, shall be extended for one year from August 6, 1916.

When the company's Bill for strengthening and enlarging Charing Cross Bridge was rejected by the House of Commons on July 3 last Mr. Pretyman, speaking for the Board of Trade, mentioned that the company had had the power for a long time of widening the bridge. That power, he added, expired in August, but it could be extended by the Board of Trade.

The "Journal" of the London Society hints in its August issue at the ultimate realisation of a scheme for demolishing the existing railway bridge over the Thames at Charing Cross and erecting a "magnificent road bridge" in its place. It points out that by rejecting the Bill promoted recently by the South-Eastern Railway Company the House of Commons "in effect sanctions some scheme of reconstruction in the near future." The "Journal" adds: "One circumstance which would do more than anything else to ensure the success of the scheme would be the active participation by the Bridge House Estate Committee, to whom London already owes so much. The last boon conferred by them was the widening of Blackfriars Bridge, carried out by them at no charge to the ratepayers whatever. Although it is their practice not to go outside the City boundary, their powers to do so are evidently discretionary, as the Tower Bridge does not lie within those limits, and it is conceivable, if proper representations were made to the committee, this matter of Charing Cross Bridge might receive their favourable consideration. Their project of the new bridge to St. Paul's might well be postponed in favour of this far more needed thoroughfare." It is suggested that the scheme is so comprehensive in scale that it might reasonably be divided into two, one authority being responsible for the bridge and another for the approaches. In any case we are assured that "no efforts will be spared by the London Society to ensure the adoption of the scheme by the right authorities," and there is strong reason to hope for this consummation.

THE R.I.B.A. RECORD OF HONOUR: THIRTY-THIRD LIST.

Fallen in the War.

Fletcher, Major Herbert Phillips, D.S.O., Croix de Guerre (F.), Middlesex Hussars Yeomanry, attached to Royal Flying Corps. Died through an accident to his flying machine on August 1.

Pilling, Captain Percy Cunliffe (A.), Loyal North Lancashire Regiment. Died of wounds.

Aitken, Second-Lieutenant Andrew Danskine (A.), 2/1st Lowland Field Company, R.E. (T.), Egyptian Expeditionary Force. Killed in action in Egypt on August 4.

Henderson, Irving, 16th Northumberland Fusiliers. Killed in action in France on July 1.

Mr. Irving Henderson was a son of Alderman Henderson, of South Shields, and a student of the Northern Architectural Association. He served his articles with Mr. J. H. Morton (F.), of South Shields, and was afterwards Surveyor in the Inland Revenue Valuer's Office at Gateshead.

Horsnell, Second-Lieutenant Alick George (Tite Prizeman, 1906, Soane Medallist 1910), Suffolk Regiment. Killed in action in France.

Bourdon, Staff Captain Eugène, 78th Brigade, French Army, Director of Architectural Studies and Professor of Architectural Design in the Glasgow School of Architecture. Killed in action.

Military Honours.

Fletcher, the late Major Herbert Phillips (F.), awarded the D.S.O. "for conspicuous ability and skill in the performance of his special duties, which have been carried out at great personal risk and devotion to duty at all times."

OBITUARY.

Mr. F. W. Manuelle.

The death occurred in London, on August 27, of Mr. F. W. Manuelle, head of the firm of Messrs. A. and F. Manuelle, granite merchants, Aberdeen and London. Mr. Manuelle succeeded his father as chief of the business about ten years ago, and under his control it gained a high reputation in the granite trade. The firm, one of the largest in the trade, owns extensive quarries in Aberdeenshire, including Dancing Cairns, Sclattie, and Dyce, and maintains a depot at Aberdeen. A large and extensive business has also been established in Norway and Guernsey, in the Channel Islands. The firm has been closely identified with the erection of many well-known public and commercial buildings throughout the United Kingdom, such as the "Morning Post" offices, London; the Ritz Hotel, London; the Royal Liver Buildings, Liverpool, and the Liverpool Cotton Exchange, and is at present engaged in fulfilling important contracts in South America. The activities of the firm, however, are not confined solely to the building branch of the trade. Much attention has been devoted to the monumental branch and to the production of stone for pavements and road-making purposes. Vast quantities of material have been supplied to the French Government and have been used in the construction of those excellent military roads which are standing the strain of the present unprecedented traffic so well, and which facilitate the speedy transport of men and material to and from the front line trenches. The firm import and deal very largely in Norwegian and Swedish granite. Mr. Manuelle was president of the Quarry Masters' Association. He was a keen and able business man, straightforward in his dealings, and was held in high esteem throughout the trade. Mr. Manuelle, who was between forty and fifty years of age, was unmarried.

Mr. George Coffey.

The death of Mr. George Coffey last week will leave the intellectual life of Ireland sensibly poorer. Mr. Coffey may be said to have been the first Irish archæologist who brought the rich and in many ways mysterious remains of pre-historic Ireland into relation with the study of European antiquities in general. His three principal works, "New Grange and other Incised Tumuli in Ireland" (1882, revised edition 1912), "The Bronze Age in Ireland" 1913), and his "Guide to the Celtic Antiquities of the Christian Period" 1913), form a fairly complete history of ancient art in Ireland so far as materials are at present available, and constitute the greatest advance made in this sphere by any one mind since the publication of Petrie's Essay on the Round Towers in 1845. He was appointed Keeper of Irish Antiquities in the Dublin National Museum in 1896, and held this post until compelled to resign, in 1914, by a long and distressing illness, which he bore with unfailing courage and serenity. Besides the three works mentioned, he contributed many papers on art and archæology to the Transactions of the Royal Irish Academy, of which he was a valued member.

Captain W. H. B. Savile, M.Inst.C.E.

Captain William Henry Bourchier Savile, R.F.A., and formerly captain 1st Gloucestershire R.G.A. Volunteers, who fell on August 14, was the son of Colonel H. B. O. Savile, C.B., of Clifton, Bristol, and was educated at Clifton College. He was a member of the Institute of Civil Engineers, and when the war began was assistant-engineer at Bristol Docks. In 1908 he married Alice Mary, eldest daughter of Major C. R. B. Thorne (late 60th Rifles). He was forty-two years of age.

Captain E. Edwards.

Captain E. Edwards, Company Commander Monmouthshire Regiment, was a son of Mr. Thomas Edwards, of Maescycwmmer, and was educated at the Pengam County School. Having served his articles to a firm of architects in Cardiff, he held appointments under the Wandsworth and Pontypridd Councils. He was afterwards surveyor to the Blaenavon Urban District Council, and then joined the Monmouthshire Regiment on mobilisation.

A Builder's Estate.

The will of the late Mr. James Eaves, builder and contractor, of Blackpool, has been proved at £13,393.

NEWS ITEMS.

A New Memorial Statue.

Over £1,600 has been subscribed in South Wales towards the erection of a statue to the late Colonel Lord Ninian Crichton-Stuart, M.P., which is being executed by Sir W. Goscombe John.

Wallasey's New Town Hall.

The new Town Hall of the borough of Wallasey, which has just been completed, is to be put to use this week as a military hospital. About three hundred and fifty beds have been fitted for the treatment of wounded soldiers, and the necessary medical and nursing arrangements have been made. The basement is to be used as a chapel for services for convalescents. The building, which has cost £100,000, occupies an imposing position on the Cheshire bank of the Mersey.

The Spire of St. Mary's, Leicester.

Workmen are now busily engaged on the repairs to the spire of St. Mary's Church, which were recently found to be absolutely necessary. It was at first suggested that the defective masonry might be removed and the spire "capped" until another opportunity presented for completing the work; but it would have been a pity to leave so fine a structure unfinished, and the determination to carry through a complete scheme without delay will be generally approved.

The Jointing of Drain Pipes.

Referring to the paragraph under this heading which appeared on p. 92 of our issue for August 23, The Ironite Co., Ltd., of 11, Old Queen Street, London, S.W., write to point out that "Ironite" is being used very extensively for the jointing of drain pipes with the greatest success, also for the jointing of metal pipes, rendering them waterproof, gasproof, and oilproof. The company will be pleased to send particulars to anyone who is interested in the matter.

Reconstruction of Dublin.

A meeting of the Reconstruction Committee of Dublin Corporation was held in the Members' Room, City Hall, August 28. A deputation was received from the Civic Institute of Ireland, consisting of Messrs. Kaye-Parry, F.R.I.A.I., Albert E. Murray, F.R.I.A.I., and William McConnell, F.C.I.I., assistant hon. secretary. The deputation dealt with the Bill, and expressed their strong approval of it, and they suggested that it would be well to take powers in it to deal with ancient lights and party walls in a way that would be satisfactory to all parties and a great saving to those about to rebuild. The Committee instructed the Town Clerk to invite the co-operation of Mr. Orpen and Mr. George O'Connor, architects, to assist the City Architect and Professor Unwin in the preparation of the Corporation by-laws and plan. The Committee also instructed the Town Clerk to write to the Civic Institute asking them to appoint a representative to co-operate in a like capacity.

Permits for Building.

It is stated that about 2,000 applications have been made to the Ministry of Munitions for permission either to commence building or to complete building operations which had been begun before this permission became necessary. No permit is necessary in the case of a building the total cost of which is under £500. It is further stated that the Ministry has acted very reasonably with respect to applications.

Municipal Housing Scheme, Coventry.

Of the 609 houses being erected by the Coventry Corporation just outside the city boundary, near Stoke Heath, about 150 have been occupied, and the remainder are rapidly approaching completion. The rents range from 9s. 6d. to 11s. 6d. a week. There is room for another 150 houses on the site, and it is possible that the Housing Committee will seek powers to erect this further number while the contractor and his men are on the ground.

Home for Wounded Officers.

St. John's Lodge, the mansion in Regent's Park formerly occupied by the Marquis of Bute, is to be taken over by the Kitchener Memorial Committee as a home for wounded officers, and will have a garden worthy of its purpose. Sir John Ellerman has undertaken to defray the whole cost of the upkeep of the beautiful grounds, and Sir William Dunn (who will probably be the next Lord Mayor of London) has, in his capacity as chairman of the Royal Botanical Society, made certain arrangements to that end.

New Schools for the West Riding.

The West Riding Education Committee have given notice that on the site of land they own in Flaxley Road, Selby, they intend to erect a temporary corrugated iron school for the accommodation of 500 scholars. The new buildings are to be put up at once. The East Riding school at Barlby is also to be enlarged to accommodate a further 250 children. The present Council school was only built two years ago. It was then thought that the new buildings would be ample for some years. Barlby, however, has since developed at an unexpectedly rapid rate.

Fryston Hall Poor Law Infirmary.

The architect's plans for the arrangement and laying out of the Fryston Hall estate and the adaptation of the Hall have been received by the South Yorkshire Joint Poor Law Committee at Sheffield. Mr. A. E. Booker, the clerk to the committee, outlined the scheme, and said there would be eleven homes for women, eleven for children, and eleven for men, providing accommodation for over 1,000 patients. It was proposed that the homes should be 125 ft. apart. There would be a school, dairy, laundry, assembly room, sewing-room, etc., while the hall would be used as stores, offices, and quarters for officers. The laying-out was for the maximum possibilities of the future.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 *lines* (*about* 28 *words*) 1*s.* 6*d.*; 3 *insertions*, 3*s.*

ARCHITECT'S Assistant, A.R.I.B.A. (31), married (classed garrison service abroad), while waiting for call, offers part time assistance to London Architect needing temporary help; could arrange whole time if offered work in connection with munitions. —Box 881.

BUILDER'S Clerk (38), disengaged; 18 years' experience in good general firm; first-class reference; ineligible.—Jackson, St. Heliers Bramley, Guildford, Surrey. 885

BUILDER'S General Foreman; capable and energetic; good manager; trade, carpenter and joiner; age 43; first-class London references; town or country—F. S., 46, Pemdevon-road, West Croydon.

BUILDER'S General Foreman; over twenty years' experience as above; used to large jobs; town or country; trade, carpenter; experienced in all branches; excellent references.—E. W., 31, Dimsdale-road, Blackheath, S.E.

CIVIL Engineer or Contractor's Manager, over 20 years' experience on public works in England and Colonies, requires position in month's time. Experienced in all branches railways, waterworks, sewerage, dock and jetties, bridges, etc. Highest references.—Box 799.

FRANCE.—Representative or position of trust wanted by experienced business man, over military age, connected with Architects and Builders.—W. I. Grant, 41, Boulevard Magenta, Paris. 874

GENERAL Foreman or Working Foreman seeks re-engagement; new or alteration jobs; last four jobs in London; town or country; or would take over large camp job; by trade carpenter and joiner.—2, Chameleon Road, Tottenham.

GENERAL Foreman; recently engaged on large War Office contracts; also contracts carried out in France; first-class testimonials London builders and architects.—T. Keating, Elm Villa, 20, Melville-road, Walthamstow.

GENERAL Foreman; new or alterations; town or country; first-class references; trade, bricklayer; age 42; abstainer; practical experience in all branches. —W. H. B., 62, Farley-road, Catford.

GENERAL Foreman disengaged (43); joiner; new or alterations; town, country, or abroad.—W. R., 266, Latimer Road, Notting Hill, W.

GENERAL Foreman seeks re-engagement; town or country; first-class references; trustworthy and energetic.—J. B., 14, Camden-street, Camden Town, London.

GENERAL Foreman seeks re-engagement. Competent, reliable, and energetic. Trade, carpenter. Town or country. Good references for town and country work. Terms moderate.—J. T. S., 64, Portobello Road, Notting Hill, W. 865

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, September 13, 1916. Volume XLIV. No. 1132.



CAST OF RELIEF MODELLED AFTER AN ANCIENT PAINTING AT HERCULANEUM.
(In the Soane Museum.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

SEPTEMBER 13, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1132.

EDITORIAL.

EDUCATIONAL prospectuses for the forthcoming session are now reaching us, but, so far as we have been able to examine them, we have not noticed any very striking indications of the vast changes that are nevertheless imminent. Neither surprise nor disappointment arises. Pending an educational "Great Push," for which the psychological moment has not yet arrived, marking time is the wisest course. Staffs being depleted, students scarce, and the main stream of energy diverted to other channels, any radical changes to be introduced into the curricula of professional and technical education must await many important issues which have yet to be determined. Many barbed-wire entanglements must be demolished before there can be a general advance; vested interests, prejudices, inveterate fallacies, must be swept away, and what and where these are the Parliamentary committees and other accredited investigators should soon make clear. In the mean time isolated attempts at reform would be rather futile, if not mischievous, because they would probably be out of harmony with the general scheme of national education — elementary, secondary, university, and technological—for which we are anxiously waiting.

* * * *

Because the looker-on sees most of the game, educational reform should not be left entirely in the hands of professional educationists. As a shrewd critic has observed, "These men have been confronted with the problem for years, yet have been unable so to line the forces as to close the polygon." This same writer holds that we should begin with the elementary schools, where mental processes are ignored, where the faculty of memory is cultivated at the expense of all the other faculties, and where the art of thinking is but seldom acquired, partly because there is no time for it, but more especially because the teachers themselves have never acquired it. Because of this vital omission, which the technological educators do but perpetuate, "the products of our colleges," it has been said (yet not of British colleges, but of American) "are mere animated handbooks, with a slide-rule attachment." Manual training, as Mr. Charles Godfrey Leland demonstrated practically a quarter of a century ago, might be advantageously substituted for some of the comparatively useless subjects to which too much attention is at present given in the elementary schools; but here a difficulty arises from the jealous opposition of the trade unions, who fear the flooding of the market with cheap skilled labour. They must be won over to more enlightened views before any real progress can be made; for it is in their power to interfere not merely as organised bodies, but individually, as the parents of the children whom it is sought to educate in handicrafts. In the secondary schools, snobbery intervenes, the lower middle-class mater—the lower the more prejudiced—recoils wit loathing from the vision of her son in his shirt-sleeve handling tools in a school workshop; it is hardl "respectable." In the phrase of Shakespeare, wh has been himself, perhaps rather unjustly, called th prince of snobs, "'tis base mechanical."

* * * *

Yet men who have attained to eminence in th professions have acknowledged their deep indebte ness to the workshop bench, which took them awa from intangible abstractions and gave them their fir real grip of material facts. Leading architects, fro Inigo Jones downwards, have found the edged tool most effectual instrument of education; and instructio in manual work ought really to form part of the equi ment of every architectural school. Then th architect would indeed justify his title as the chi artificer, and would be in much the same position as th *maestro* who can play indifferent well every instr ment in the orchestra, whose members will have th more respect for his bâton. In the secondary and the elementary schools, manual work should not l merely recreative, and should not be a thing apa from science teaching. It should illustrate ve definitely, in even the simplest operations, the teac ing of the physical and mechanical laws or principl of which we can escape too easily the explication, b of which the incidence meets us at every turn.

* * * *

In the current issue of "Drawing," Mr. John Ha sall, R.I., takes up the subject of craftsmanship on æsthetic side. In the days of his youth, he studi at the Antwerp School of Art, "where one w trained free of charge," and where, consequently, the young men and young women of the city take drawing as habitually as, in our own country, th take to music; and Mr. Hassall adds: "I believe th this is still the case over there, and I believe that mo people in Belgium and France have artistic percepti and take greater pleasure in the ordinary course life than we do, because they have had their imagin tions stimulated by the influence of art. It is a p that in Britain all those in authority, and most of t public, fail to recognise that art is one of our great assets. . . . The expansion of the brain of the Emp should be insisted upon." This does not mean, Mr Hassall explains—not unnecessarily, we fear—"th everyone should be able to build a St. Paul's, desig Chippendale chair, or paint a Velasquez, but that th should be taught the 'reasons why' of ordinary thin just as they are taught reading and writing."

* * * *

In the concluding paragraph of his article, M Hassall shows in a flash what is wrong with the tea ing in our schools, which is, in effect, too sup

icial and perfunctory. "Nearly all children are given drawing lessons, and are taught to draw an apple, a vase, or a flower. But they are not taught to look for the beauty of the lines, the pleasure given to the eye by curve and symmetry or proportion, simply because the teacher they rely on has never studied these things. Every future carpenter, joiner, plumber, builder, scaffolder, bill-poster, clergyman, policeman, railway man, lawyer, tinker, tailor, soldier, sailor, etc., would find more pleasure in life and so prove a better citizen, if he was taught to see and appreciate the contours and lines of every-day objects or to disregard them if they had no merit. In course of time people would come to look for these points instinctively, and the creators thereof, knowing this fact, would improve in every branch of work." Does anyone doubt for a moment that architecture would be better if the public appreciation of it were sounder, or if by any means the "man in the street" could be induced to take an intelligent interest in the buildings that make it?

* * * *

Reverting to a subject to which we gave a paragraph or two last week—that of the psychology of the public mind with respect to architecture—we may add that while it seems a paradox it is really a corollary that, among the uncultivated, the craving for novelty co-exists with the distrust of what is new. There is a kind of bravado in it. If we cannot keep the genuine old building, give us in its place something that does not invite comparison with it, something that diverts our mind from it; if we must move, let us essay a wide leap that will take us clear away from the old traditions. That is apparently the feeling of those who are ignorant of the real cause of their vague dissatisfaction, which is ignorance of the facts and principles that govern architecture, and a consequent dulness of perception. Almost every new building shows, to the discerning eye, modifications necessitated by the use of new materials and new methods of construction; but because these modifications are not garish and flaunting, the man in the street does not perceive them. He is therefore sceptical as to their existence, just as he doubted the process of evolution because he could not see it in operation. But violent change is hardly more possible or more desirable in architecture than it is in any other matter of which the fundamental principles were ascertained and established once for all in the earliest stages of civilisation.

* * * *

A point of economy that has not hitherto received adequate attention is the conversion of waste products. Vast heaps of rubbish occupy much ground in or about every centre of manufacture, and that, besides being unsightly, they may also be dangerous is evident from the report that a large rubbish tip on a mountain side in Wales has begun to slide *en masse* towards a village, which is thus threatened with destruction. Of what materials this aggressive heap consists is not stated; but there are few by-products or waste substances that could not be turned to useful account if it were thought worth while. Unfortunately, the creators of waste heaps are too apt to adopt a dog-in-the-manger policy with respect to their disposal. We have in mind an instructive instance. A manufacturer of a building speciality ascertained that he could make profitable use of certain waste-heaps if he could get them cheap enough. He made inquiries: "Is that stuff of any value to you?" "Quite the contrary; it is a nuisance, and a source of loss. It costs us a good deal in cartage to the tips, is a charge on labour for the attention it requires, and occupies a good deal of ground that could well be put to better use." "Well, I could use the stuff if I could get it cheap." In an unguarded moment, the manager said, "I should think the owners would be glad to get rid of it for nothing, if you would cart it away." He was wrong. When application was made to the owners, their commercial instinct was stimulated. "If it is worth something," was their line of reasoning, "we must charge something for it," and they asked a price that was prohibitive. Consequently both parties lost an advantage, and the waste heaps are still growing in bulk, number, and hideousness. It should not be allowable to accumulate rubbish heaps to the public danger, nor, indeed, to waste so much land in hoarding them. It is perhaps necessary to reserve a certain area for their reception, but none should be wasted year in and year out on mere storage of rubbish; it is against national economy, and so also is the continued failure to find means of rendering the rubbish useful.

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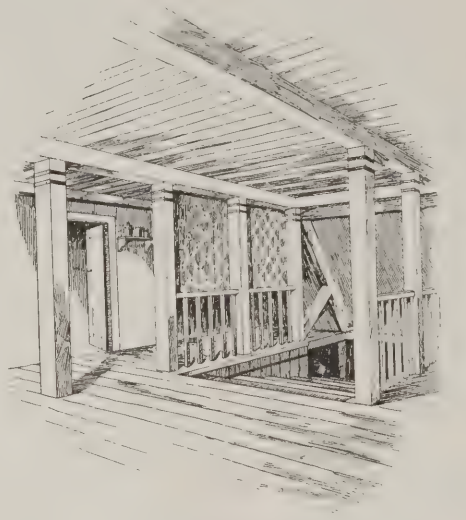
Ecclesiastical dilapidations are still being discussed in the correspondence columns of the "Guardian," and it continues richer in complaints of personal hardship than in well-conceived suggestions for reform. Very few of those taking part in it have the courage to say straight out that the whole thing is muddled iniquitously, and that a radical operation is necessary to effect a cure; most are for patching and tinkering a system that palpably has had its day and should cease to be. That an incumbent, possibly as poor as a church mouse, should be held personally responsible for the maintenance in repair of church and vicarage is theoretically absurd and morally indefensible—the former, because it leaves too much to accident and chance; the latter for the same reasons, with the addition that it encourages bazaars and other demoralising means of collecting funds. Nor should it be possible for rich incumbents, or for those who enlarge their premises to accommodate pupils, to leave "white elephants to their needy successors." These matters, however, are not our immediate concern; which obviously is, that the upkeep of church buildings should be less subject to personal, local, and casual conditions. Centralised and systematic control would relieve the clergy of much worry and anxiety, and set the architect and builder fewer heartbreaking tasks of tinkering.

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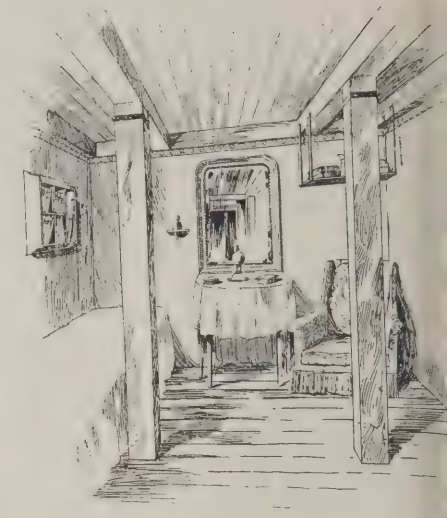
The Trade Union Congress held at Birmingham last week offers but little occasion for comment. A resolution protesting against conscription seems to have been mainly dictated by a groundless fear that it might be applied to the control or detriment of labour after the war; the mover of the resolution saying that "They wanted no military compulsion in industrial life after the war, for that would mean the end of collective bargaining." There was a further resolution protesting against "the employment of working parties consisting of soldiers under military control," which conveyed the same affectation of distrust. Such apprehensions—or misapprehensions—strike one as being quite superfluous. Equally gratuitous was the remark of a prominent speaker that "he believed every man should be trained not only to protect his home, but to protect himself in case of the use of troops to put down strikes," which one can only regard as a piece of rhetorical claptrap. It was to some extent atoned for, however, by the speaker's declaration that he did not take a pessimistic view of the state of things which would exist after the war. "He did not believe that millions would be thrown out of employment. The rebuilding of Belgium and France would give employment to those now making munitions." That is a view that we have repeatedly expressed. On the whole, it would be safe to give the Congress a certificate for sanity and loyalty.



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Timber Staircase.

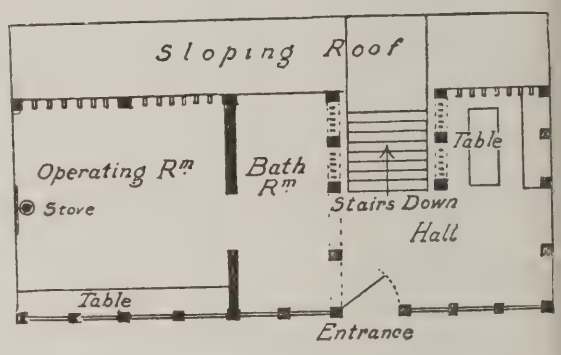


Officer's Dug-Out.

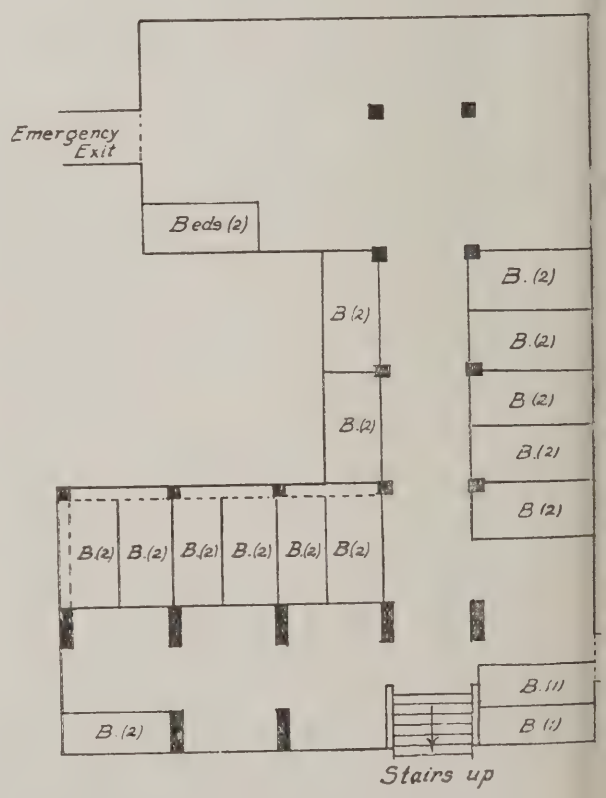
HERE AND THERE.

THERE be architects with the Forces, and without doubt it was an architect who wrote the article on German trench architecture which the Press Bureau placed at the disposal of the newspapers one day last week. An official copy has come into my own hands, and I now print it as excellently supplementing the matter of the same nature which has already appeared in these columns.

Along many miles of the Western front, as it was till the end of June, you can now do what seems to trench-dwellers almost the utmost reach of impossibility—that is to say, you can stand at your ease in the middle of No Man's Land and look at a German front trench on your right and a French or British front trench on your left. As soon as you do so, you feel that the outward face of each wears a quite different expression. It is not merely the accident that the Allies' wire is only cut across by neat lanes or gangways at convenient intervals, while the German wire lies in a trampled mess on the ground. The difference goes much further. For one thing, the Allies support their barbed wire mainly with wooden stakes; the Germans do it with iron. For another, the Allies' parapet owes much more of its strength to visible sandbags. The Germans build with sandbags, too, but not so much nor so openly. Their parapet makes more show of rough clay or chalk, even where a light layer of this covers two or more feet of reinforced concrete placed like a shrapnel helmet on the head of a dug-out or a gun emplacement. And if you now leave your first standpoint and explore the two trenches in turn, and also the support and communication trenches behind each of them, you find that the difference goes, in more than one sense, deeper still. The Allied trench looks, in every way, like the work of men who hoped and meant to move on before long; the German trench looks like the work of men who hoped, or feared, that they would be in it for years. Our trench housing has been much more of a makeshift, a sort of camping out, with some ingenious provisions for shelter and comfort, but not more than the least that would serve. Most of our dug-outs are just roughly delved holes in the earth, with only enough props and rafters to hold the roofs up; their floors are bare ground, with a little straw on it; their doors, if they have any, are a few odd pieces of plank with a couple of other pieces nailed across; often the floor is on the trench level, to save burrowing. Lighting is done with candles, mostly bought at the canteen, and if anyone owns an arm-chair or a two-foot-high mirror, it is the jest of the platoon.



First Floor Underground


Emergency Exit
Beds (2)
B. (2)
B (2)
B.(2)
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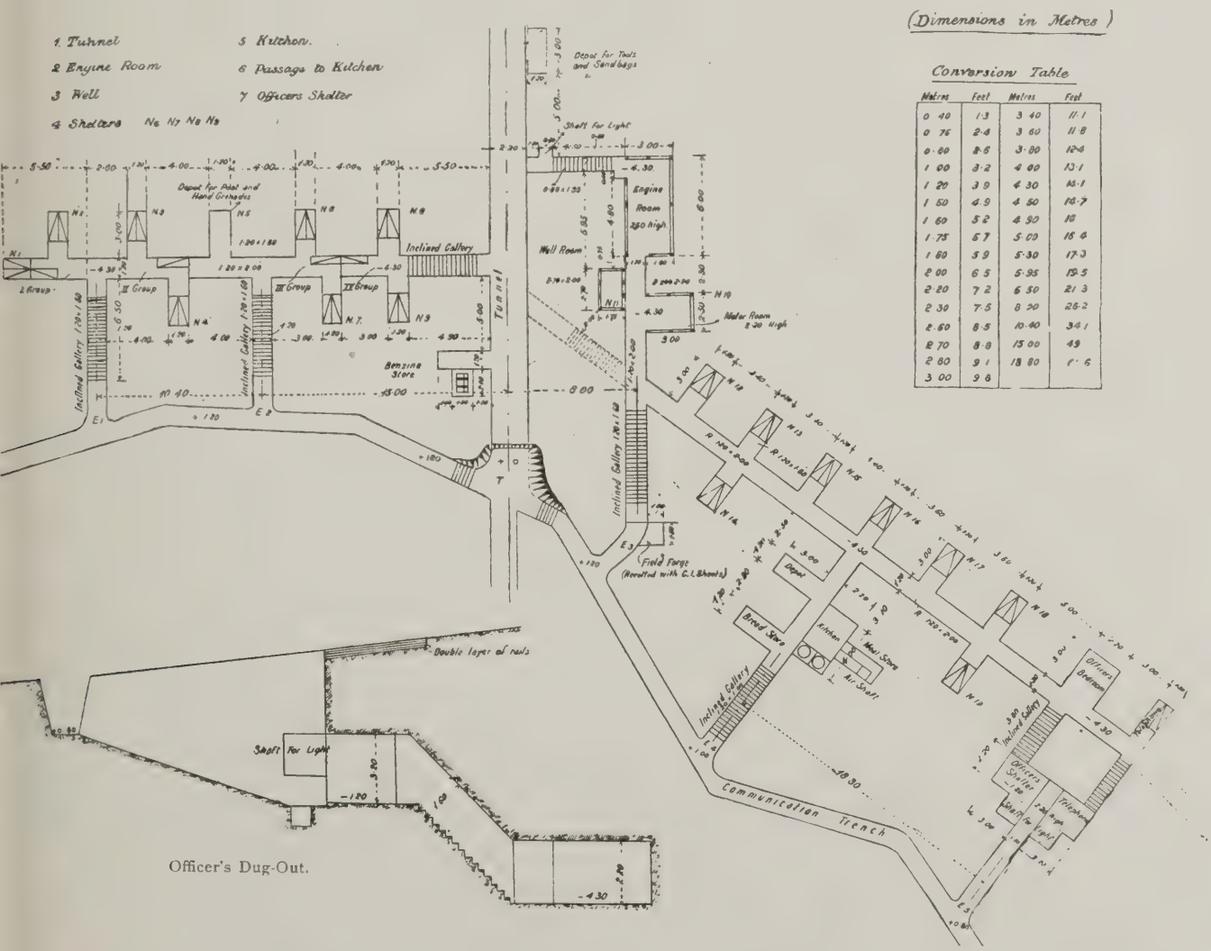
The whole German idea of trench life is different. The German front in the West is like one huge straggling village, built of wood and strung out along a road 300 miles long. Of course the houses are all underground. Still, they are houses, of one or two floors, built to certain official designs, drawn out in section and plan. The main entrance from the trench level is, sometimes at any rate, through a steel door, of a pattern apparently standardised, so that hundreds may come from the factory on one order and missing parts be easily replaced. The profusely timbered doorway is made to their measure. Outside this front door you may find a perforated sheet of metal, to serve for a doormat or scraper. Inside, a flight of from twelve to thirty-six stairs leads down at an easy angle. The treads of the stairs and the descending roof of the staircase are formed of mining frames of stout timber, with double top sills; the walls are of thick planks notched at the top and bottom to fit the frames and strengthened with iron tie-rods running from top to bottom of the stairs and with thick wooden struts at right angles to these. At the foot of the stairs a tunnelled corridor runs straight forward for anything up to fifty yards, and out of this open rooms and minor passages on each side. In many dug-outs a second staircase, or two staircases, lead to a lower floor, which may be 30 ft. or 40 ft. below the trench level.

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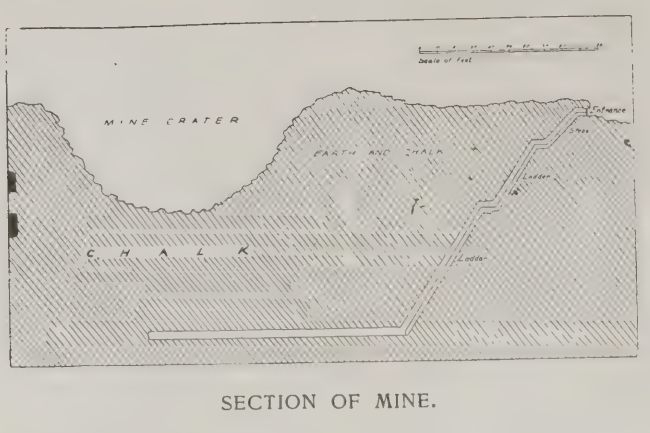
All these staircases, passages, and rooms are, in the best specimens, completely lined with wood and as fully strengthened with it as the entrance staircase already described. In one typical dug-out each section of a platoon had its allotted places for messing and sleeping, its own place for parade in a passage, and its own emergency exit to the trench. In another, used as a dressing station, there are beds for thirty-two patients and a fair-sized operating room (see accompanying plans). A third, near Mametz, was designed to house a whole company of 300 men, with the needful kitchens, provision and munition storerooms, a well, a forge riveted with sheets of cast iron, an engine-room, and a motor-room: many of the captured dug-outs were thus lighted by electricity. In the officers' quarters there have been found full-length mirrors, comfortable bedsteads, cushioned armchairs, and some pictures. One room is lined with glazed "sanitary" wall-paper, and the present English occupant is convinced by circumstantial evidence that his predecessor lived there with his wife and child. Clearly there was no expectation of an early remove.

* * * *

Other German trench works show the same lavish use of labour as the dug-outs. In the old German front trench south of La Boisselle an entrance like that of a dug-out leads to a flight of twenty-four stairs, all well finished. At their foot a landing 3 ft. square opens on its further side upon a nearly vertical shaft. Descending this by a ladder of thirty-two rungs you find a second landing like the first, opening on a continuation of the shaft. Down this a ladder of sixty rungs brings you to the starting point of an almost straight level tunnel 3 ft. wide and about 5 ft. high, cut for fifty-six paces through pure hard chalk. It ends in a blank wall. If you take its bearings to the compass, return to



PLAN OF GERMAN DUG-OUT, NEAR MAMETZ, ACCOMMODATING 300 MEN.



SECTION OF MINE.

the parapet, and step fifty paces in the same direction as the tunnel, you find yourself in a huge crater which had evidently been held, and probably made, by British troops. So that, at the moment of the advance in July, nothing remained, presumably, for the Germans to do but to bring the necessary tons of high explosive to the end of their tunnel and blow the mine under the base of the old crater (see illustration above). Some rungs of the ladders in the shafts are missing or broken, but as a whole the shafts and the tunnel are remarkable for amplitude and finish. Like an incomplete dug-out near Fricourt, this mine still contains parts of the machinery used for winding up the excavated chalk to the surface.

* * * *

Nobody who reads this should leap to the conclusion that, simply because German trench work is more elaborate than ours, it is a better means to its end—the winning of the War. No doubt the size and the overhead strength of German dug-outs keep down casualties under bombardment and sometimes enable the Germans to bring up unsuspected forces to harass our troops in the rear with machine gun and rifle fire when a charge has carried our men past an uncleared dug-out of the kind. On the other hand, if our advance is made good, every German left in such a dug-out will be either a dead man or a prisoner. No doubt, again, the German dug-outs give more protection from very bad weather than ours. But they also remove men more from the open air, and there is nothing to show that the half-buried German army gains more by relative immunity from rheumatism and bronchitis than it loses in the way of general health and vitality. In England troops have better health in tents than in huts, and better health in huts than in billets. For a man of sound constitution "exposure" often means something unpleasant rather than unhealthy, and it would not be surprising if the close underground villages of the Germans yielded higher figures of general sickness than our own simpler, shallower, and more airy trench shelters. UBIQUE.

THE PLATES.

Massachusetts Institute of Technology.

THE two further plates in our series of illustrations of this important new building show, in particular, the forecourts and the corner pavilions. The general view looking across the forecourts gives a good idea of the spaciousness of the lay-out, while the closer views of the corner pavilions as seen from two points in the principal court show how admirably the scheme is composed. There is nothing niggardly about this building: it is large and grand, and refined withal. A block plan was given in our issue for August 23, and a full description in the following issue.

Science School, Leighton Park School.

The general arrangements and special fittings of the laboratories in the new science school at Leighton Park School were designed by the joint architects (Messrs. Fred Rowntree and Son and Ralph W. Thorp) in conjunction with the head master (Mr. C. I. Evans, M.A.) and staff of the school, the work being carried up to the standard of the first M.B. and of University scholarships. Each of the laboratories (which are approved by the General Medical Council) is also its own lecture room, with raised demonstration bench at one end, and behind this a blackboard with lantern screen tilted forward above it. The main working benches face the demonstration bench. The sinks are at the end of these benches, and subsidiary benches at the side and end of the room are used for special working space, for balances, aquaria, etc. The chief desideratum of a biological laboratory is light equably distributed; this is secured by a skylight and high window running across the whole of the east side of the room. Much blackboard space is provided. A novel feature is a kind of annexe, partly an exhibiting museum, and partly a working room for amateur naturalists. These work chiefly in three corner cubicles, which are granted to six boys, whose work merits it, for skinning animals, setting up skeletons, mounting insects and pressing plants. The chemical and physical laboratories have their balances on slate benches at the ends of the rooms, each balance being in a glazed air-tight cupboard with sliding front. The gas pipes feeding the bench bunsens are overhead and form stable stands for retort lamps and apparatus holders. They do not interfere in any way with the free view of the demonstration bench and blackboards and tend much to the tidiness of the working benches. They have the additional advantage of being exposed to view and not liable to corrosion. In the chemical laboratory the benches are fitted to accommodate four boys at each; there is much free space, as the shelves for reagents are placed at the ends of the benches. The side benches for special work are supplied with both electricity and gas. There are two fume chambers and a stone bench for ovens and furnaces. The sinks are of white glazed ware rounded at the corners with ground overflow plugs to wastes, which are connected to the horizontal drain under the floor by means of salt-glazed earthenware vertical pipes with special junctions. The drain under the floor has inspection eyes at each bench. There are windows on three sides affording both good light and cross-ventilation. In the physical laboratory all the benches have gas and electric current, the latter being supplied from three large-capacity accumulators, so that a pressure of 2, 4, and 6 volts may be utilised at will. There are two galvanometer recesses and a drying cupboard for electrical apparatus. All the windows of the laboratory, including the roof-light, can be darkened by black blinds for optical work. Leading out of the laboratory is a small workshop containing carpenter's bench, store cupboards, etc. The benches generally are of teak, the remainder of the woodwork being of American whitewood. The contractors for the equipment of these laboratories were Messrs. Reynolds and Branson, Ltd., of Commercial Street, Leeds.

No. 129, Grosvenor Road, London, S.W.

A very successful result has been achieved here on a site which was formerly a wharf adjacent to the river. A large portion of it has been turned into a courtyard, two sides of which are enclosed by the house itself, the third side being shut in by the wall of adjoining premises, and the fourth side being open to the river. The plan of the house is a very unusual one, but was evolved in accordance with special requirements. The chief rooms on the ground floor are arranged so that they face on to the courtyard and the river, thus securing quiet and privacy



MODERN AMERICAN ARCHITECTURE (SERIES II.). IX.—NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.: VIEW LOOKING ACROSS MINOR FORECCURTS. WILLIAM WELLES BOSWORTH, ARCHITECT.

"The Architects' and Builders' Journal," Wednesday, September 13, 1916.



Corner Pavilions and Minor Court.



Detail of Elevation to Principal Court.

MODERN AMERICAN ARCHITECTURE (SERIES II.). X.—NEW BUILDINGS FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS. WILLIAM WELLES BOSWORTH, ARCHITECT.



Biology Laboratory.



Chemical Laboratory.

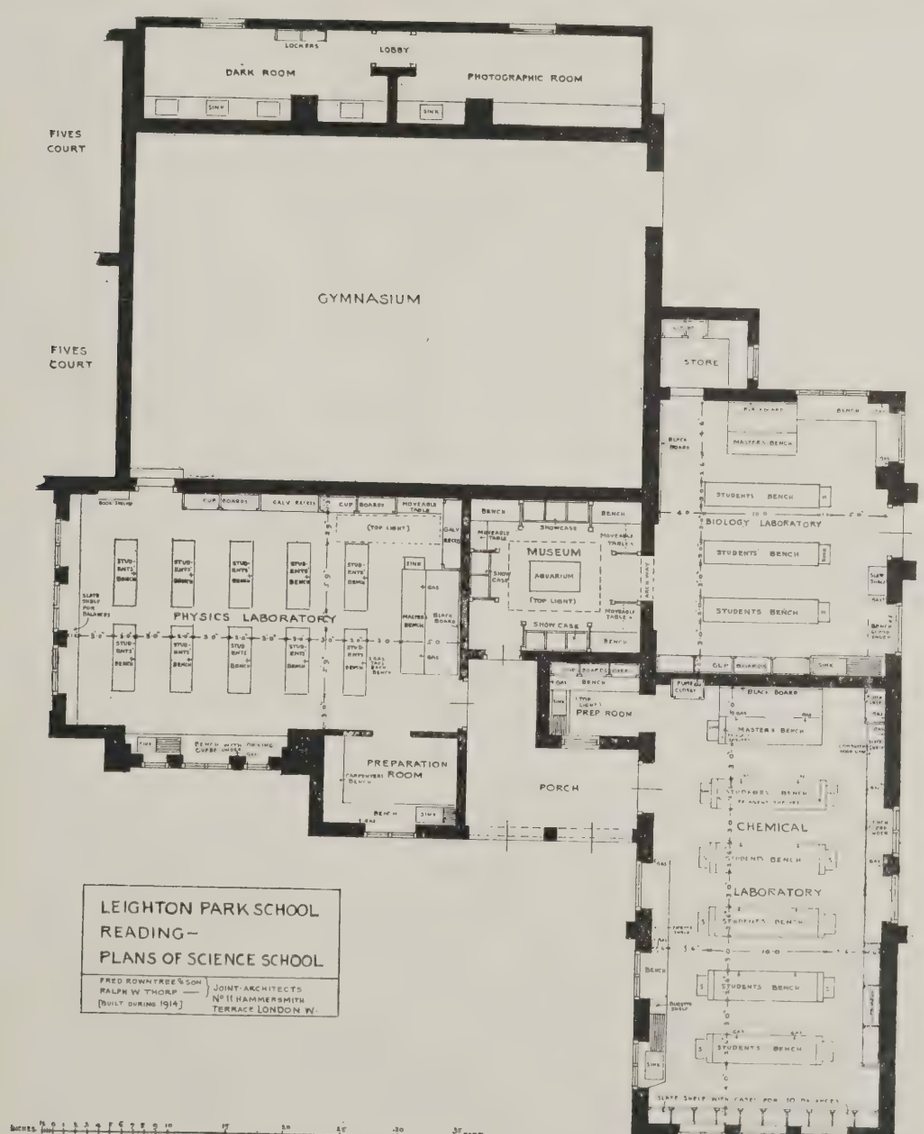
Photos: Walton Adams, Reading.

SCIENCE AND TECHNICAL BUILDINGS. XI.—SCIENCE SCHOOL, LEIGHTON PARK SCHOOL.

FRED ROWNTREE & SON AND RALPH W. THORP, JOINT ARCHITECTS.



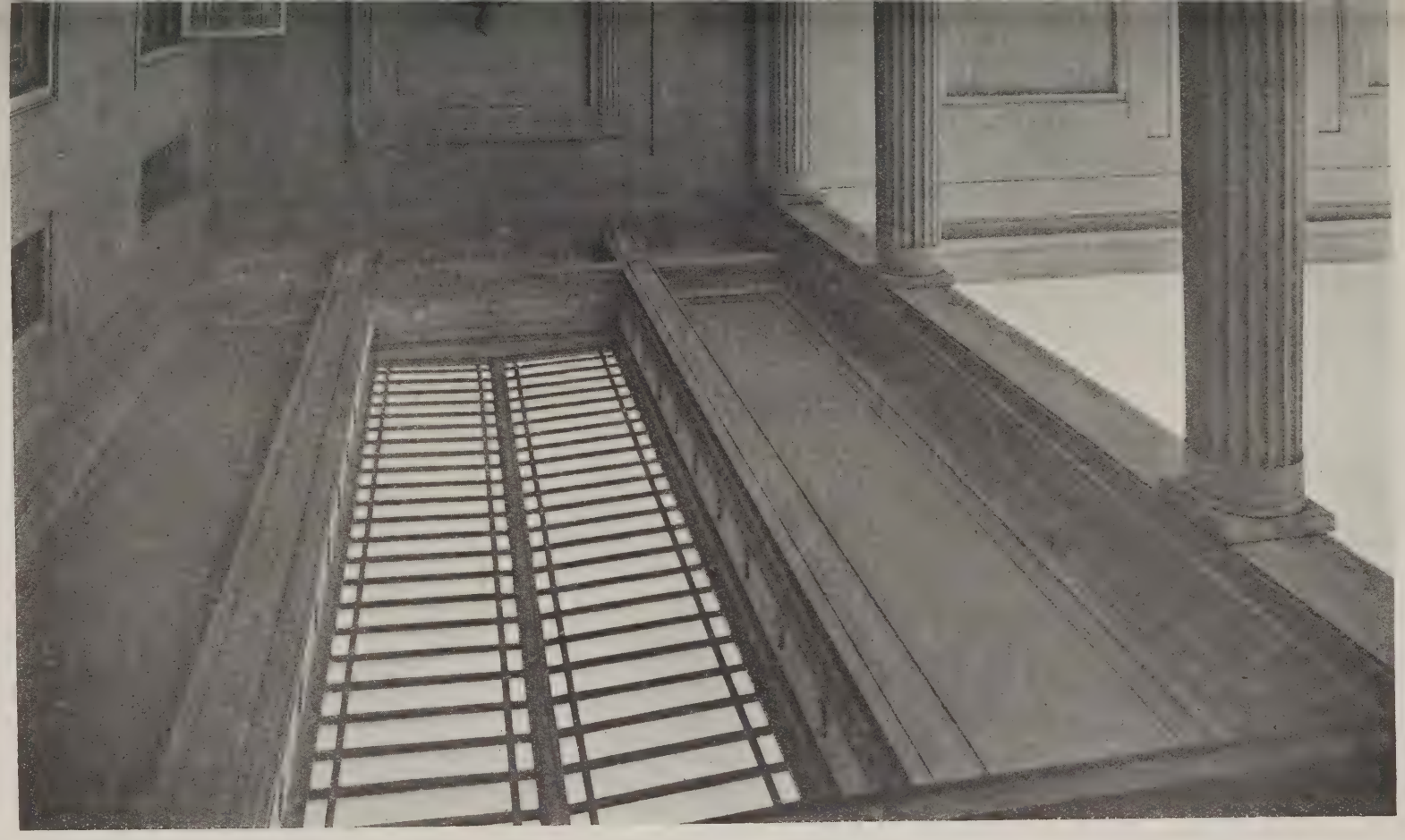
Photo: Walton Adams, Reading.

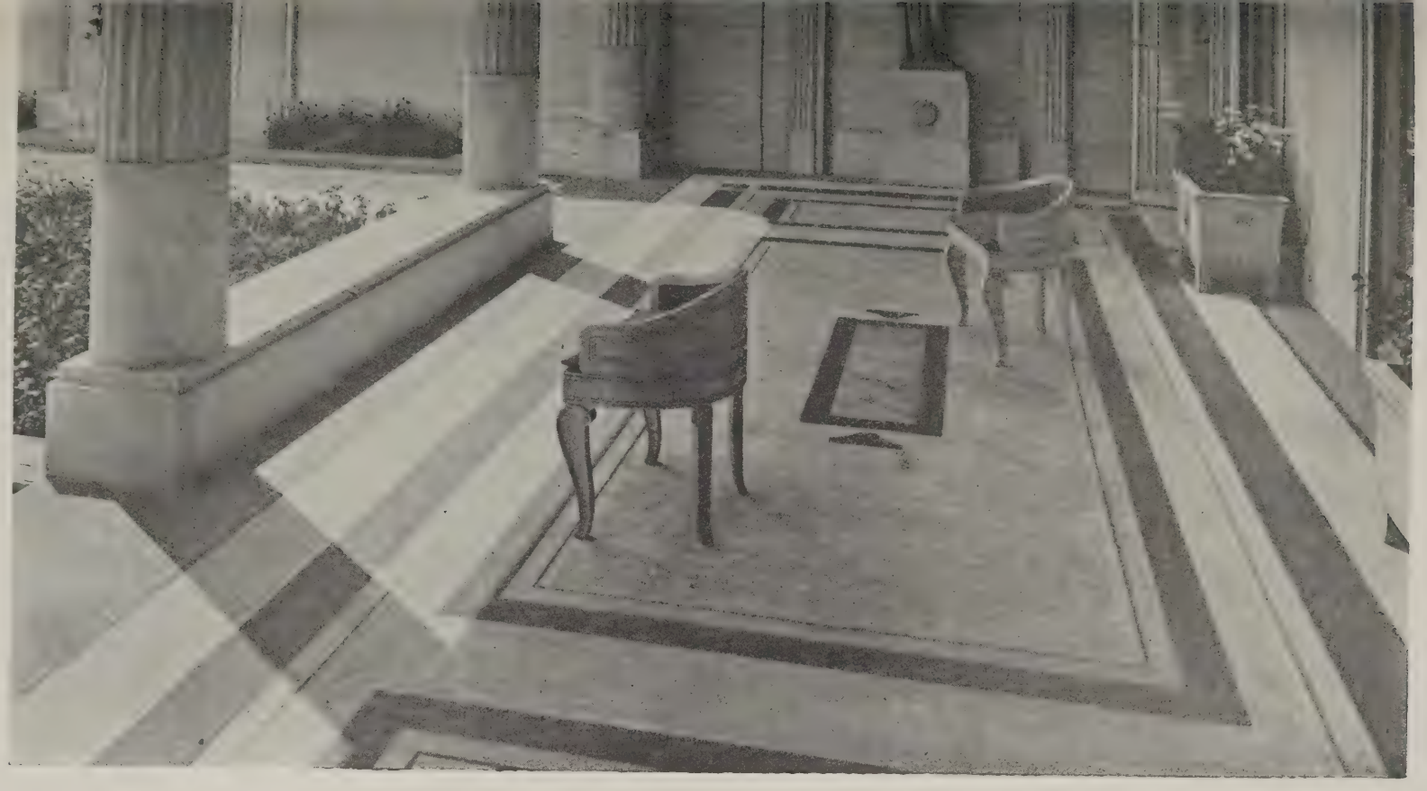


SCIENCE AND TECHNICAL BUILDINGS. X.—SCIENCE SCHOOL, LEIGHTON PARK SCHOOL.

FRED ROWNTREE & SON AND RALPH W. THORP, JOINT ARCHITECTS.

THE
UNIVERSITY OF ILLINOIS





CURRENT ARCHITECTURE (SERIES III.). L.—No. 129, GROSVENOR ROAD, LONDON, S.W.: THE STOA.

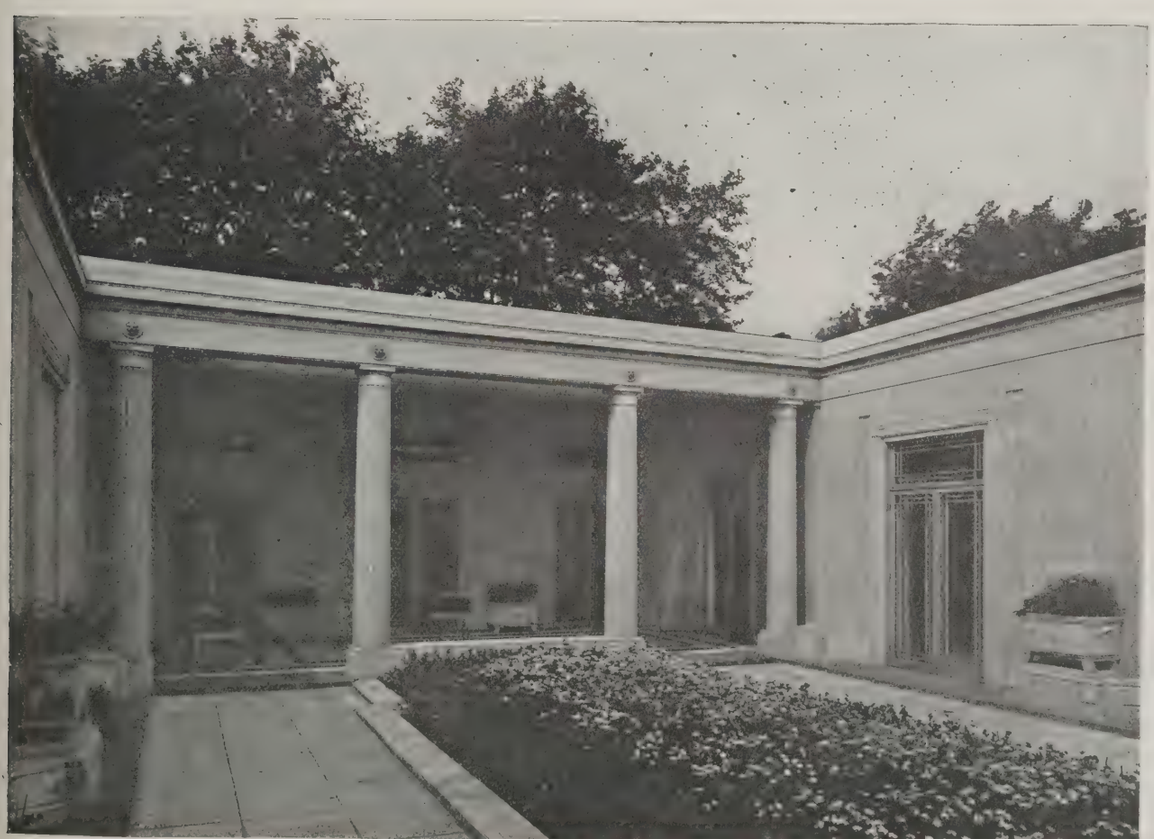
G. AND A. GILBERT SCOTT, ARCHITECTS.

vhile the less important rooms face the roadway. The principal feature of the interior is the river-room, vhich is 60 ft. by 20 ft., and has a wide bay window overlooking the Thames. The water at this point laps he wall beneath the window, and the effect of the passing shipping seen from the room is very striking nd picturesque. The courtyard is treated entirely vith "stuc," and has in the centre a bed of flowers vhich, with the terra-cotta urns on either side, also illed with flowers, introduce gay pieces of colour nto the scheme. At the inner end of the courtyard s a stoa supported by four fluted columns and top- ighted through a skylight extending the whole vidth, and at one end of the stoa is a figure of Hebe n a pedestal, set in a shallow recess having a reeded order—as seen on the double-page plate. Messrs G. and A. Gilbert Scott were the architects and Messrs. Holloway Brothers (London), Ltd., the general contractors.

THE EIGHTEENTH-CENTURY HOUSE.

THE September issue of the "Architectural Review," just issued, contains a series of illustrations of Farnham from beautiful pencil drawings by Mr. Harold Falkner. In many of these are seen the houses of eighteenth-century date which make Farnham so interesting to he practising architect. "The occasion for these houses of the Georgian period, at Farnham and elsewhere," says Mr. Falkner, "was an increasing prosperity. People found for the first time that hey had more money, that they had a surplus after hey had provided for the necessaries of life, and ought some outlet for it. A house was a safe invest- nent, and bricks gave it a greater permanency than he half-timber construction that had been universal prior to about the year 1700. . . . Who was the master-mind in the building of these houses? Was he an architect, a master-builder, or a carpenter? We know that in the houses of the great in those days there was a person calling himself 'architect,' sometimes a professional man, sometimes an amateur. At Lynn, at York, at Cambridge, we know the names of provincial architects who were responsible for local town houses, and at Chichester there is the tradition that Wren himself descended to the small town house—but I do not know on what foundation this tradition rests, for, though I have searched the ratepayers' lists, directories, and parish registers, before 1800 I can find neither the name of an architect nor of a surveyor; and from the great prevalence of similar details in houses of the same dates, and from the gradual development of one style out of another, a sort of handing down from father to son, I am inclined to think that the carpenter was responsible.

"The ruling feature in all the houses is the sash window. The windows are twice as high as they are wide, and they are not less than three feet from the floors nor more than one foot below the ceilings—which settles the proportion. In every case the houses have a parapet above the cornice, except in shop property. In the earlier houses the cornices and details are bolder, in the later ones the refinements brought to perfection by the Adam brothers become apparent. And all have a great sense of decency and restraint. There is a rigid adherence to symmetry. Blank windows are seldom used. In one case at least a staircase runs across a window rather than there should be a blank or any loss of symmetry. The plans are, as a rule, bad. The house is generally divided down the middle by a passage which is often too narrow to be anything more, although this sometimes develops into a corridor and is treated somewhat successfully as an architectural feature. The rooms are all small and nearly square.



COURTYARD, No. 129, GROSVENOR ROAD, LONDON, S.W. G. AND A. GILBERT SCOTT, ARCHITECTS.

The staircases are almost always broad, taking up the space of at least one room. They are of the very best construction, and the details are most carefully thought out; in several instances the undersides of the stairs follow in section the outline of the bracket between the tread and the riser, producing a fine rolling effect of polished woodwork; the strings are, of course, always open, the handrail nearly always of the same pattern, and the balusters of practically one pattern—turned, fluted, and slightly carved; twisted balusters of the Georgian period never occur."

CORRESPONDENCE.

Australian Commonwealth Parliament Building Competition.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Your attention has probably been called to the fact that when it was announced that the Commonwealth Government intended to proceed at once with the competition for the Australian Parliament building the Royal Victorian Institute of Architects cabled to the R.I.B.A. to inform us that they were opposed to the holding of the competition till after the War, and to request us, in conjunction with the French architectural societies, to express our opinion on the subject to the Commonwealth Government. The Competitions Committee of the R.I.B.A. at once took action. The French architectural societies expressed their agreement with the views of the Victorian Institute and on September 5 Mr. Fisher, the High Commissioner for Australia, gave a very courteous and sympathetic hearing to a deputation from the R.I.B.A. consisting of Mr. H. V. Lanchester, chairman, and Mr. Herbert A. Welch, hon. secretary of the Competitions Committee.

Mr. Fisher promptly sent a cablegram to the Commonwealth Government expressing the views of the R.I.B.A. and of the French architectural societies, and it is hoped that at an early date we shall hear that our action has produced the desired result.

IAN MACALISTER,
Secretary, Royal Institute of British Architects.
9, Conduit Street, W.

Professional and Industrial Education.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—As you are very rightly and very usefully giving, from time to time, a great deal of attention to professional and technical education, I may, perhaps, be allowed to refer to the controversy on this subject which is taking place in the American technical journals. From this discussion what our friends across the Atlantic call "college education" comes out very well. It seems to be agreed that the right kind of youth becomes a better architect or engineer if he is able to take a university course. In our own country this is only possible to a select few; it is a matter of means; but in Cincinnati there is in operation a system that to a certain extent overcomes this serious difficulty, and I think that it deserves to be better known. It is here described in a communication from Mr. W. P. Anderson, president of the Ferro-concrete Construction Company of Cincinnati:

"The discussion between Professors Mead and Swain on college education leads me to write you in reference to the operation of the co-operative engineering course inaugurated at the University of Cincinnati.

"Our firm has been employing co-operative students for a number of years, and the writer has talked to a number of other employers in Cincinnati who use co-operative students, and all with whom I have talked agree that this is an excellent form of education. The course normally takes five years to complete, but we have in our employ at the present time a student who completed the course in four years, the first three years of which he took the co-operative work and the last year he spent entirely at the university.

"This method of education enables an ambitious boy who could not otherwise obtain a college education to do so through his own efforts. Our company generally pays the first-year students about 20 cents an hour, and, as they work ten hours a day, this would equal $12 per week. The students who have worked for us for more than a year get regular labourers' wages, which for the last year have been 25 cents per hour—thus netting the boys about $15 a week, and from now on the wages will be even higher than this.

"All the superintendents on our work prefer having these college students to any of their other labourers. The students do all kinds of work and do it more intelligently than our other workers. . . . In addition to the straight labour work which they do, such as helping concrete, placing reinforcing steel, etc., they also have experience in direct engineering work such as laying out the lines for buildings, checking sub-contractors' work, making drawings, estimating the amount of work completed and assisting our superintendents and foremen in numerous ways. Of course it is probable that a relatively larger majority of good material take this course than is the case in the ordinary college or technical school.

"The boys in this co-operative course usually are employed during their entire summer months with the same employers, and they are practically assured of a job when their course is over, as their employers are glad to keep them. Also, after graduation, I believe they are assured of a better position than they would otherwise be able to obtain, on account of the practical knowledge they have gained during this course.

"I believe that the co-operative course helps to a certain extent to make a student realise how he is to apply some of his studies, and that his contact with actual workers tends to cause him to take advantage of his opportunities. Some of our superintendents are men who have worked their way up without college educations, but they invariably wish that they had had the chance to take a co-operative course, and undoubtedly so express themselves to the co-operative students.

"Some of my associates feel that the principal advantage of this form of education is the fact that the earning power of the boy enables him to get through college and that if his means allowed it he would get as good an education by continuous school work with possibly some work in the summer time for which he received pay, but I personally believe that, provided the college facilities and teachers are the same, a boy gains in co-operative work more than he would in a straight school course on account of the actual experience which he gets while he is doing his college work."

I am very well aware that this idea is not entirely novel. Employers in our own country have, in many instances, offered substantial encouragement to their apprentices to attend technical classes. But this practice is by no means general, although I believe it is extending; and, moreover, it applies only to artisans. I write in the hope that the example from Cincinnati may possibly suggest something to our own educationists. If, in the strenuous new era of industry that is to follow the war, the universities are to justify their existence, they must not only offer a more useful curriculum, but must become much more accessible to the student of moderate means.

London, S.W. B. E. J.

NEWS ITEMS.

Farm Buildings for War Veterans.

Contracts have been given for the erection of twenty-five sets of farm buildings, together with the breaking of 40 acres on each farm, on a farm colony north of Coaldale, Alberta, for war veterans.

A War Memorial Tablet.

The first war memorial in South Lincolnshire has been unveiled and dedicated in Pinchbeck Parish Church, near Spalding. It takes the form of a brass tablet, on which are inscribed the names of 101 men of the village who volunteered for service.

New Steelworks for Coatbridge.

A site has been practically fixed for a new steelworks near to the Waverley Works, Coatbridge. It will be controlled by the Scottish Iron and Steel Co., will cost between £4,000 and £5,000, and will give employment to about 500 hands.

Waterproofing Railway Bridges.

The filtration of water through leaky railway bridges has engaged the attention of railway engineers for many years. We are informed that the N.E.R. have been experimenting with renderings of Pudlocrete upon two of their railway bridges between Bridlington and Whitby respectively, and that the engineer has expressed his satisfaction with the result.

Lord Kitchener Memorial in the Orkney Isles.

A decision has now been come to in Orkney to erect a conspicuous monument to the memory of the late Lord Kitchener on Marwick Head, in the Isle of Birsay, which is quite near to the sunken reef where H.M.S. Hampshire went down. The elevation of this headland will render the monument visible for a long distance both by land and sea.

Aberdeen Operative Masons.

The counting of the votes in the ballot for the election of a general secretary for the Aberdeen United Operative Masons and Granite Workers' Union took place on August 24 in the office at the Trades Hall Buildings, and the result was as follows: John R. Cowie, 336; Charles Annand, 316; George Alexander, 217. As there are only twenty votes between Messrs. Cowie and Annand, and therefore no absolute majority for either, another ballot will be taken at an early date.

Chepstow's New Market.

Final plans of Chepstow new Cattle Market, behind the Church Boys' House, have been presented to the Urban Council by Mr. Page, the architect, by whom they were explained. The buildings comprise the offices of the respective auctioneers and the refreshment house in the centre, and are on the garden city principle, while the rostrums and sale rings are also, it appears, to be invested with architectural characters. A cattle-tying shed is to be erected under the railway embankment, and the toll office is also to be a substantial structure and in harmony with the other buildings. Provision is also made to accommodate a pleasure fair and a circus. The Chairman suggested adding the plans to the chairman of the Standard Shipbuilding Company, and this was agreed to.

R.P.S. Exhibition.

The annual exhibition of the Royal Photographic Society is now open, till September 30, in the gallery of the Royal Society of British Artists, Suffolk Street, Haymarket. Quite a number of architectural subjects are included, among them being two very remarkable autochromes of the art gallery in Buckingham Palace, by Messrs. Walsham. In the Technical Section interest is centred in three panoramas of the German trenches photographed by the Printing Company of the Royal Engineers. The panoramas, one of which is 8 ft. long, are produced by making a series of negatives on comparatively small plates and then enlarging two diameters. The cameras have often to be handled under fire, and on more than one occasion have had bullets through them.

New Buildings in Aberdeen.

The Plans Committee of the Aberdeen Town Council has passed the following plans: Underground petrol store on the east side of Berryden Road, in connection with the premises of the Northern Co-operative Co., Ltd., per Mr. John G. Park, engineer; conservatory at the rear of the dwelling-house, No. 26, Forest Road, for Mr. John Spencer, oil manufacturer, per Messrs. D. and J. R. McMillan, architects; garage at the rear of the dwelling-house, No. 2a, Albyn Place, for Dr. Alexander Mitchell, per H. Macgregor, joiner; wood store on the south side of Palmerston Place, for Mr. Charles Lyon, timber merchant, per Mr. W. E. Gauld, architect; alterations in connection with stabling premises on the north side of Princes Street, for Mr. George Bothwell, grain merchant.

Scottish Veterans' Garden City.

The secretary of the Scottish Veterans' Garden City Association has received intimation that the Scots in the city of Amsterdam, New York State, have constituted a "Mohawk Valley Garden City Association," for the purpose of raising 3,500 dollars to build cottages in connection with the Longniddry scheme. The Association has already received donations from Scotsmen in New York and Canada, and in certain cases Scottish societies have formed joint committees to raise funds sufficient to build a cottage to which the name of the locality will be asserted. The stipulation that persons who contribute £150 and upwards shall be entitled to name the cottage provided by their donation, and, subject to the approval of the council, to nominate the occupants, has resulted in a number of persons and organisations contributing that amount.

The Appeal for Building Labour.

The appeal made by the Ministry of Munitions last week for men to join Building Labour Squads has met with a fair response, but the number applying for service is not nearly as large as was anticipated or as is required. A very large number of men are wanted immediately, and it is hoped that every man not of military age who has the necessary physical strength will go to the Labour Exchanges and offer his services. More factories are needed if the output of munitions is to be increased, and the Building Labour Squads are required to build the factories. The men who enrol will be given a certificate bearing the signature of the Minister of Munitions. The men of the Building Labour Squads will be paid the standard rate of wages ruling in the district in which they are working, and in addition will receive free accommodation, or 1s. a day lodging allowance. All fares to and from their homes to the place of employment will be paid, and every man, if he is engaged on a job at the time of joining the Labour Squad, will be given a three months' guarantee of employment.

BOOK NOTICE.

The Stability of Arches.

In Mr. Ernest Sprague's handy little volume on "The Stability of Arches," much practical information is compressed. As modern arches in masonry and concrete are usually of the "moderately flat" type, and as the elastic theory affords for these the most satisfactory basis of investigation, it is to this theory that Mr. Sprague has given most attention in his book, which comprises eight chapters and an appendix. In the introductory chapter, the historical development of the arch is briefly but clearly traced, ancient examples being illustrated in a series of sketches. Other chapters treat, respectively, of the three-pinned arch, the elastic theory, the two-hinged arch, the hingeless arch, masonry and concrete arches, and loads and stresses, while an appendix deals with calculation of the ordinates of a circular arc, construction for a parabola, tangent to a parabola, and construction for a flat circular arc. Throughout the book there are many useful calculations, formulæ, and working diagrams, and these are leavened by useful and lucid discussion of the problems involved.

"The Stability of Arches." By Ernest H. Sprague, A.M.Inst.C.E., Assistant at University College, London, etc. With five folding plates and fifty-eight diagrams. Pages viii.+142. London: Scott, Greenwood & Son, 8, Broadway, Ludgate, E.C. Price 4s. net.

GOVERNMENT AND THE HOUSING PROBLEM.

Mr. Walter Long is to receive in the second week of September a deputation on the subject of housing after the war.

The importance of the problem has already been deeply impressed on the Government and the public by the conferences which have been held, and it is hoped that a favourable reply will be obtained from the Government in respect of the scheme which is to be submitted. The deputation will not ask the Government to provide any money at the present time, but only to give an undertaking that if the necessity arises money to enable housing work to be carried out shall be forthcoming on terms which will enable schemes to be promoted successfully.

In the view of those who are competent to judge, the matter is not one which can be delayed. When the war is brought to an end the building trade will be overcrowded with workmen, and, unless some provision is made to give them work, there will be a very serious industrial problem to face. If in the absence of work these men are retained in the Army in camp the cost to the nation will be enormous.

There is another side to the matter which must not be forgotten. It is that the high rate of interest which money commands, and which is expected to continue for some time after peace is concluded, makes the problem of cottage building doubly difficult to face. A cottage which before the war could be put up for £200 will cost half as much again to erect, and the consequence, unless steps are taken to prevent it, will be that tumble-down, insanitary cottages throughout the country will acquire a new value, and a state of things, especially in the rural areas, which housing reformers have been striving to eliminate will be perpetuated.

The sum which is held to be necessary for the work is twenty millions, and the Government will be asked to give an undertaking that it will be forthcoming if the circumstances make it advisable.

CONCRETE AND STEEL SECTION

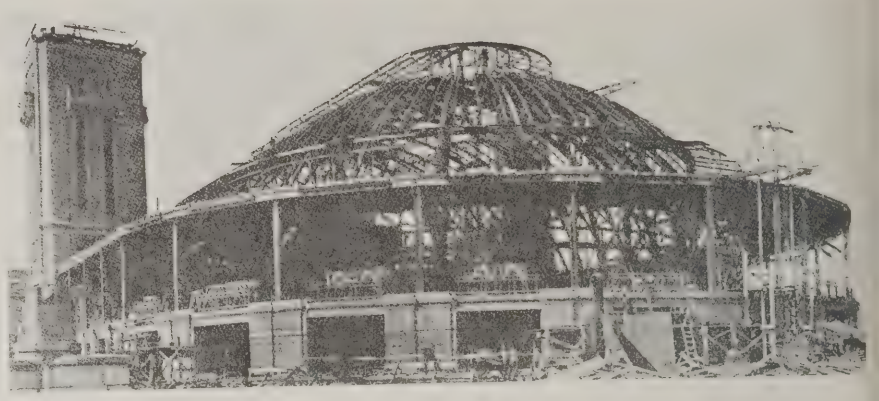
(MONTHLY.)

CURVED CANTILEVER ROOF TRUSSES.

By shifting the point of support in designing the radial trusses supporting the hemispherical roof in the recreation building on the new Chicago Municipal Pier, cantilever instead of arch action, with corresponding simplification of the detailing, was obtained. In this way, by utilising the framing outside of the main structure, arch thrusts at the semi-circular ring used to connect the radial girders to the main arches were entirely avoided. Another special detail of this building is the unusual riveted trusses and curved steel framing used above the proscenium to support the roof and the plastered ceiling. This steel-frame building contains a public hall about 135 ft. wide and 150 ft. long, with arched roof and hemispherical end.

The span of the three-hinged arch trusses is 136 ft. 8 in., with a rise of 74 ft. 4 in. The rectangular part of the building on the west end is about 105 ft. long, consisting of four panels at 20 ft. with a 25-ft. end panel at the back of the proscenium. To support the arched roof there are four main three-hinged arch trusses and the special truss over the proscenium near the brick wall of the west end. On the east the semi-circular end has a radius of about 59 ft., with a 24-ft. two-storey outside extension carrying the promenade deck at the roof level. This two-storey frame with its loading was utilised by connecting it with the curved radial trusses to insure cantilever action instead of arch action, as already mentioned.

The accompanying drawing of half-sections of the main trusses and this framing gives the principal dimensions and the materials used. A monitor 45 ft. wide and



HEMISPHERICAL STEEL ROOF OVER RECREATION BUILDING, CHICAGO.

7 ft. high extends over four panels and is carried around the semicircular end as indicated. The copper roof is attached to the 1½-in. cinder concrete slab spanning the 5 ft. between curved channel rafters. These rafters are supported by plates above the longitudinal struts shown in the various sections and braced by the short bent rods at the ends.

True arch action for the main roof trusses is obtained by the use of 2¼-in. round rods, with turnbuckles, placed below the floor. Built-up channel chords and four-angle web members with batten plates are used in these trusses. Stiff bracing of the knee-brace or portal type shown in the sections is placed in vertical planes 11 ft. 6 in. apart at the upper joints to stiffen the lower chord, while special braced struts are placed at the lower joints of this chord.

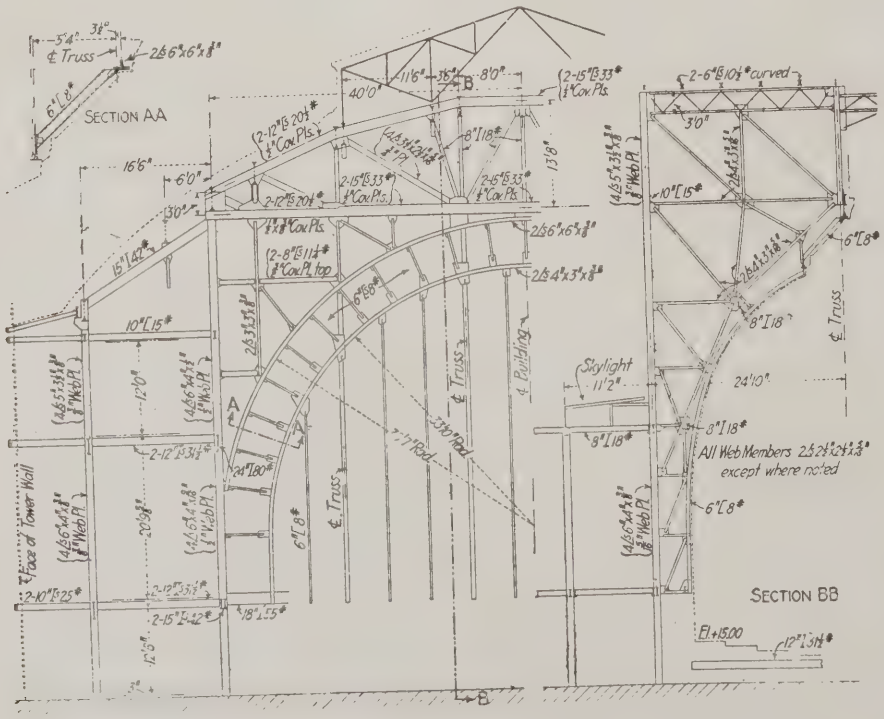
Although the stresses are small, the relatively heavy truss shown below the roof of the two-storey extension for the promenade on the side of the building was designed to conform to the cantilever trusses in the circular portion, where these trusses form part of the trusses.

On the same drawing with the half-section of the main three-hinged arch trusses is shown the modified truss used for the hemispherical roof support. The simple expedient of combining this truss with the exterior two-storey frame, with its loading, and placing the main pedestal at the inside or lower chord of the curved trusses brought the centre of gravity outside this point. As a result the curved truss acts as a cantilever and is connected at the inner end to a ring truss about 4 ft. deep, as shown in the drawing. The stresses in the truss below the roof of the outside extension are much increased in comparison with the previous case, although the same sections are used except for the top chord where a cover plate is added to the two channel member.

Except for the three lower panels, the main web members of these radial trusses are of the two-angle type with tie plates instead of the four-angle type used for the heavier main trusses. The stresses decrease rapidly toward the crown. The ring girder at the crown is used primarily to connect the ends of the cantilevers. It was realised that if the ends of these cantilevers deflected, a horizontal thrust would be thrown into this ring girder, which was designed to transmit it. The struts in the roof opposite the ends of the ring girder carry this thrust to some special designed bracing at the back of the proscenium.

The special truss near the west end of the building over the proscenium arch and domed ceiling is supported on columns about 60 ft. high, and carries the framework to which the plaster-on-metal lath is attached. Four light truss frames similar to that shown in section BB of the accompanying drawing frame into this truss at the main panel points, their top struts supporting the curved rafters for the roof of the main building. The upper-chord panel lengths vary quite irregularly in order to support the standard monitor truss similar to that used above the main arches. The use of I-beam web members should be noted.

The design of the recreation building was made by Mr. G. Edward Gustafson under the direction of Mr. E. C. Shankland, chairman of the Harbour and Subway Commission of Chicago. Mr. W.



RECREATION BUILDING, CHICAGO: SECTIONS SHOWING STEELWORK.

Artingsall was harbour engineer, Mr. Earl Van Voorst was superintendent in charge of construction, and Mr. Charles S. Frost was the architect for the commission. The contractors were Messrs. Paschen Brothers, of Chicago.

GRAPHICS UP TO DATE.

Graphic statics and such-like mysteries are generally explained with becoming seriousness in severely scientific language. But there is another way of imparting the knowledge, just as Green, in his "History of the English People" showed us there was a way of teaching English history very different from, and very much more attractive than, the orthodox manner of the text-book. The following lively illustration of the newer method, couched in the strange language of a Canadian contractor, we take from the "Contract Record," of Toronto:

"William, I have a new stunt f'r ye," was the greeting Scotty Ross hurled at his partner, Billy Ballou, one sweltering hot morning in July, as the latter was taking off his coat and rolling up his shirt sleeves, preparatory to starting a session with a thick roll of blue prints, from which he had to make up an estimate.

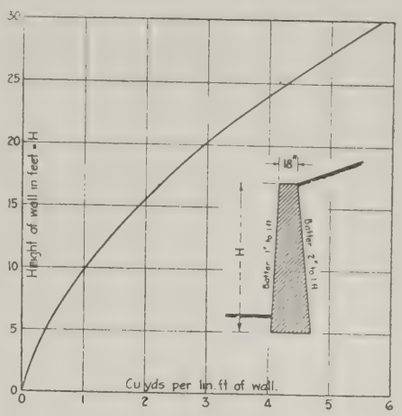
"What is it, Scotty? A self-feeding concrete mixer that collects the price of its own work, or forms which place and strip themselves? I'll bet some machinery salesman has been playing you for a sucker so early in the morning," was Bill's reply.

"Ye mind the young feller that was up here from Ottawa f'r the Water Power branch, don't ye? The one that was always tellin' us that efficiency methods could be applied to contractin'? Well, he's back here again to gauge Bull Creek for the Government, and dropped into the shack here yesterday afternoon to smoke a pipe with me and treat me to a little more hot air. He has a new hobby now. 'Tis 'graphics.' Accordin' to him, ye can do anythin' by this graphics business, and, sure, I believe there's somethin' in it for us at that," continued Scotty.

"Wait a minute! You're going too fast for my infant mind!" cried Billy. "You and I have been in the contracting game for ten years now, and in that time we have spent a good deal of money, for which we got precious little return. If there is really anything of value to us in this graphics business, I'm willing to look into it, but I must get this estimate for the L. M. and H. retaining walls done by to-night or we will not be able to get a bid in on time. What is graphics, anyway?"

"Listen to me, boy! Graphics is a sort of way of doin' a lot of your figurin' by means of lines on bits of paper. Accordin' to the young lad, there's little ye can't do by it; but I'm thinkin' that he's a bit daft on the subject," Scotty went on. "However, while he was here I got him to explain it to me as well as he could, and, for example, he took those very same retainin' walls you was just kickin' about.

"Look here," he continued, producing a diagram, "ye'll note that all your walls are 18 in. wide on the top and that they all have the same batters on the back and face. Now, to get the yardage of concrete in them, ye have to take each height by itself and figger them out, and you're no wizard at figgers, me boy, though you're a lot better in that respect than I am, for ye have the advantage of a few years' schoolin', while I have none. Look at this pretty curve. On the left ye see a line of figgers marked 'Height of wall, equals H,' and at the bottom another row, marked 'Cubic yards per lin. ft. of wall.' Very well! Now, suppose we say, for the sake of tryin' the thing, that ye



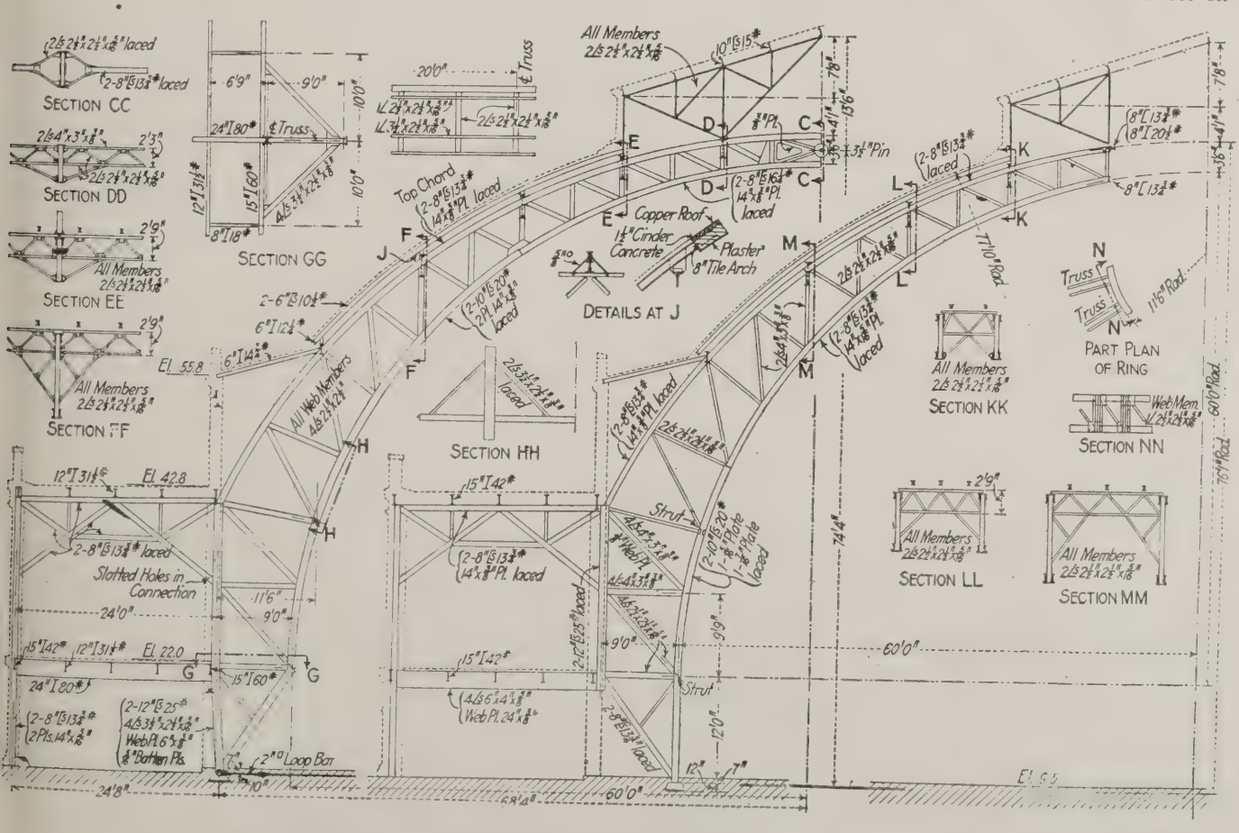
have a wall which is 20 ft. high. Find '20' at the left, and then run across until ye hit the curve, and then down to the bottom, where ye land at about 3, or maybe 2.95, which means that in a foot of this wall there is 2.95 cub. yd. of concrete. If your wall is 200 ft. long, then the whole quantity of concrete is 200 × 2.95, or 590 cubic yards. Simple, ain't it?"

"It surely is simple, Scotty, but I could get it closer by the old way of figuring," answered Billy.

"Ye don't need to get it any closer than ye can this way," replied Scotty, "and, besides, if ye want to be more accurate, just make your diagram larger, that's all. However, 'tis near enough for us to use in an estimate, anyway."

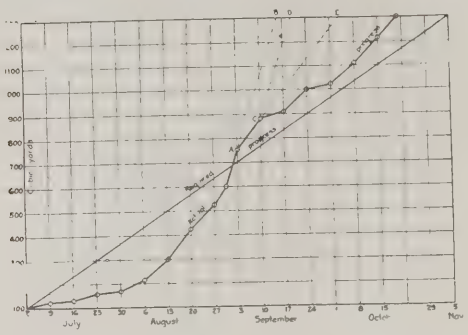
"Give me that sheet! I'll use it right now on these walls, since your young lad was good enough to make it up for us," said Billy.

"Hold up, boy!" answered Scotty. "Your lesson ain't done yet. Ye'll mind that you and me have had a bet on the



RECREATION BUILDING, CHICAGO: DETAILS OF TRUSSES AND CONNECTIONS.

time that we will finish the Hydro job? Well, I was talkin' to the young lad about that, and he says it is easy. He drew this one for that," producing another diagram.



"When we took hold there was a hundred yards of concrete placed by the other feller. Ye'll find all that up and down the left-hand side. We have until November 5 to finish the work, and there is 1,300 yd. in all to put in. Look at any date ye like along the bottom, and if ye go up to the straight line ye'll find how many yards should be done then to keep up to the schedule. F'r instance, on September 3 we should have 700 yd. in. If we have not, we are behind the game.

"There's a lot ye can tell from this diagram. The line with all the white spots on it the young lad put in to show me how I was to keep me own records. Suppose that it's right, and that on September 3 ye ask me how is the job goin' and are we goin' to finish on time or ahead or behind, and how much. I look at this thing and I draw the line AB, which goes through the point A and the one behind it, and I say to you, 'Sure boy! We are ahead of the game, for the point A is above the line of required progress, and if we can keep it up at this rate we are goin' to finish about September 15, which is over seven weeks ahead of contract time.' Suppose on the tenth you ask me again how goes it. I look at me curve and I say: 'We are still ahead of our time, but we are losin' ground, for I find that CE is more slantin' to the right than AB, and we are likely to finish about October 3 at this rate, but if we can speed things up to the rate of last week we will be done on September 19, for I have drawed CD so that it makes the same slope as AB, and I find it hits the 1,300-yd. line on the 19th.'"

"By cricky, Scotty! I think that this graphics is going to be some help to us!" exclaimed Billy. "I suppose we are as progressive as any small contractors placed as we are, where we have to do all kinds of work to make a living, but there are sure some things that the college boys can teach us, if we are willing to learn. The next time you see the young lad ask him for some more dope on the subject. In the meantime I will try to think of other applications of this method in our business. I am sure that there are a hundred places where it would be useful. Also ask him about the slide rule. I know he uses one, and I have seen a good many engineers use them, but always thought they were too complicated for us. However, they may be some good.

"About the slide rule I know nothin' at all," replied Scotty, "but I do not believe in keepin' a young man from his legitimate amusements, so I'll be going out to the job."

[The author of this engaging sketch has carried the graphic method figuratively into the domain of narrative, and he will have done good service by allaying the fears of those who had supposed graphs incomprehensible to ordinary intelligence.]

REINFORCED CONCRETE AND ARCHITECTURAL EXPRESSION.

In reinforced concrete design, many formulæ have been developed, many tables have been compiled, and much has been gained in the way of practical experience. This has been of benefit in developing the art of manipulation, for Art consists in "doing"; but the art of design seems not to have kept pace. It is to stimulate that art and to awaken in the architect a realising sense of his opportunities and responsibilities that I (Mr. Irving K. Pond, in a paper read before the American Concrete Institute) have entered into this discussion. It is essential throughout such discussion to keep clearly in mind the true and abiding status of architecture and the architect. The architect is not a mechanical fabricator of mathematical diagrams. His highest concern is with the ideal, and his first sketch should present an idea, an idea which is conceived in beauty.

Articulated Structure and Plastic Mass.

The past has demonstrated that architecture as the expression of the ideal can materialise in but one or the other of two great manners: that of the articulated structure, unit added to unit, and that of the plastic mass. The most noble development in the first manner is in the architecture of masonry—brick or stone—and this development has reached its logical limit; in no way except, may be, in mere size, its least noble attribute, is it to be excelled. Under the vital art of this first manner lay an intuitive science; under the too transient beauty of the work of the second great manner lay nothing of science at all, and so this architecture has well-nigh vanished except as some adherence to the principles of the first manner has interposed to save. And now comes the ghost of what might have been and calls for an incarnation, feeling, if a ghost can feel, that in reinforced concrete, science is preparing a body which can be vivified with the spirit of art. If this feeling is substantiated, to the architect is opened up a new range of possibilities. The architect becomes in a sense a sculptor, a moulder of monumental mass, not the fantastic figure who, at first, with sharply insistent blows, and then with infinite persuasive tappings, releases the form imprisoned in the block, but a creative constructor who builds up his ideal and shapes it by the irresistible, though tender, moulding of mass and form. In this the architect assumes no new function, but develops that feeling which by nature and of necessity inheres in the architectural mind. The vital difference between the sculptor and the architect is that the former is bound by no necessity for expression in structural terms; mass and form being enough for him, while the architect, if he really is to be an architect, must have structural laws ever in mind, and must make his work an interpretation of these laws and a symbol of their æsthetic value in the expression of the higher ideals of his race and time. The architect as well as the sculptor revels in this feeling of mass taking form under his skilful manipulation, and the feeling for plasticity and for mass influx is potent in the true architect, even though he be designing in that most refractory medium, a masonry-clad steel skeleton. In most of his work the architect has to content himself with an intellectual substitute for real feeling, and his conscious delight is rather intellectual than emotional as the idea takes form in the sketch and in preliminary plan and elevation. His fingers may itch, they do itch, to feel the flow of the mass, but the feeling remains abstract and intellectual. Therefore certain architects, if not indeed the architectural body general, are viewing with keen interest, when not actively aiding, the development of the possibilities of this fairly new and altogether plastic medium, reinforced concrete, a medium which really does flow and is moulded, and through which the form appears in gracefully unfolding stages till the final mass stands revealed, a veritable unit. One cannot in thought connect with this materialisation the shock of unloading beams, the rattling musketry of riveting, the petty and fussy application of fireproofing and surface coating. In fancy, as almost in fact, the architect sees the flowing mass take form under his own hands.

Plastic Architecture in its Infancy.

Though the use of concrete goes back into antiquity, plastic architecture would seem to be in the veriest infancy, and would seem also to be asking the genius of this age to give it perfect expression and make it worthy to stand with the architecture of the past and the yet-to-come. Though the past be examined for precedent, little will be found. Rome used concrete in bulk—but undeniable evidence of a scientific use of the material is wanting. Rome applied superficially the art of other times and countries, but of itself left to posterity only monuments expressive of a highly temperamental force breathing little or nothing of spirituality. Persia covered with stucco or veneered with beautiful tiles her masses of crude masonry. The Arabians and the Moors expressed their emotionalism in a plastic architecture decorated with a skim coat of ornamental plaster or an incrustation of tile, intricate in pattern and beautiful in colour. The concrete of the mass was but mud, and the science of building was unknown. In such material beautiful day dreams were realised only to crumble when the spell was past. The Spanish missions were built with rare feeling for mass and light and shade, but feeling swayed and science did not guide. With the science of to-day to guide and the art of experience of the past to illumine, into what logical, noble, and beautiful form should not concrete shape itself, to the end of an enduring, spiritualised architecture?

The possibilities, even the æsthetic possibilities, within the range of reinforced concrete construction can hardly be overestimated. Little beyond the introductory chapter has been written in the history of reinforced concrete, and every advance in the science of its manufacture and use will signal an advance along the line of artistic application.

Except in well-defined types, design to serve certain well-defined uses, it is impracticable so to carry masonry construction beyond and behind the façade as to result in a homogeneous structure, wanting which architecture becomes but hollow sound. The architecture of a reinforced plastic material may, and logically will, express itself throughout the entire structure of the remotest core. The unity, the truth, the harmony of the whole must in every part be manifested. Therefore again, the possibilities inherent in concrete present themselves alluringly to the architect to whom the art means as much as does the science of building.

Time and Struggle.

The architectural brain is not so conjested by the weight of pregnant thought that at a blow a Minerva shall issue fo

ill fledged and full armed. It will take me and struggle, and developed artistic erceptions in this, as in former cases, to veal the possibilities of beautiful and of onumental design.

It may well be conceived that a moulded chitecture, so to speak, an architecture flowing and harmoniously interrelated asses, may not appeal immediately to the chitect who has been taught that his art nsists in naïvely piling up child's build-g-blocks on a large scale. Whatever ay be urged against the deadly dulling actice of following the line of least re-stance in architecture, certain it is that material in which it is easier, as well as ore logical, to fashion new and appro-iate forms than to follow cut and dried nventions, cannot be regarded as other an a vivifying factor in a possible archi-ctural development, and its advent hailed ith delight. When architects relieve emselves of the notion that monumental chitecture, for example, consists solely in row of classical columns superimposed on a basement, it will be a wholesome y for the art they profess to practice. obably ignorance, inability, and self-dis-ust in the architectural ranks will remove some more or less remote future the velopment of a monumental architec-re expressing itself in new forms shioned in new materials. Yet it is ssible in this, as in other ages, that mmercialism, itself so devoid of thetic tendencies, will pave the way to e realisation of an æsthetic ideal. A aterial which holds in itself the quali-ations for commercial use will in that ry use reveal its æsthetic possibilities. material which puts into the hand of architect power to produce permanent ass and form, and add the enrichment light and shade, colour and texture, ll long be ignored when science has ade its use commercially possible. It uld, then, seemingly remain only for ence to demonstrate the practical value reinforced concrete, in respect to its ysical properties, and art must unfold atever it holds of beauty.

Unlimited Possibilities.

The steel skeleton developed from nmercial necessity, and to clothe and otect that skeleton, the architect, turally, used whatever means lay at his nmand; stone, brick, terra-cotta, and tal were called into requisition. To the the skeleton in one or another or of these materials become a fixed bit with the architect. So that when ncrete came into use, not only was it ored as a possible clothing for steel, when the skeleton of reinforced con-te was set up it was itself clothed after existing fashion for steel. Such is the l force of habit! Granting to concrete qualities ascribed to it, that it is fire-of, that it may be rendered moisture of, that once in place it is not affected atmospheric and climatic conditions, it can be permanently coloured, can moulded and chiselled, that it can be ned in place and need not be applied cemeal—what better material could be ght for clothing the steel skeleton?—why the need of any cloak at all to a material when it has been treated any manner of decency or respect by designer? So æsthetically there would n to be unlimited possibilities in forced concrete.

is not inconceivable that ornamental a-cotta and tile, beautiful in colour texture, and also sculptured stone will called upon to embellish and distin-h, though not in any manner to clothe conceal, the concrete structure. The presence of these materials may be needed as a saving grace in these early days of design in concrete, to save the designers from a too brutal conception of the forms they deem the material must necessarily take. There is an unfortunate, though marked tendency now, in what should be a refined and restrained domestic architecture, to shape concrete, and its lath and plaster imitations, into the crude, though characteristic, forms of the old mission work. It is needless to say that these forms have no meaning outside of their original environment and would not have existed there but for the exigencies of the case—the crude nature of the materials procurable and the absence of all skilled labour.

Art and Science Co-operating.

But to-day, with art and science co-operating, it would seem as though architecture were on the verge of an awakening. Commercial architecture with us is to feel the thrill. Abroad monumental architecture as well is showing signs of a renewed joy in life, and structural concrete, both of itself and embellished with richer materials, furnishes the new and seemingly adequate medium of architectural expression.

Looking backwards it does not seem that there has been an advance in the æsthetic field as opportunity seems to have offered, or as might have been expected. But we cannot lay this backwardness altogether to the manipulator of concrete nor to the architect. Economics may be a factor, but it could not be a controlling one in a community which had the desire and will to advance in the art of self-expression which the art of architecture pre-eminently is. I know the time is not ripe for a finished and full expression, for the community or the national life is not unified and complete; but there are qualities under the surface—refined and human qualities—which might at least find an echo in our concrete structures. Perhaps the echo is being heard, faintly at least. I sometimes think so, but with you all I desire the day to hasten, not only when architecture in concrete or otherwise shall express us, but when we shall have better selves which will demand and receive an interpretation in architecture.

ENQUIRIES ANSWERED.

Theories of Corrosion in Iron and Steel.

ST. MARTIN (Polegate) writes: "Some few years ago you published a review of a book on the Corrosion of Iron and Steel. Could you refer me to the correct title, price, and publisher? Does it deal with the various *theories* of corrosion?"

—A book entitled "The Corrosion of Iron and Steel," by J. Newton Friend, Ph.D., D.Sc., was issued by Messrs. Longmans, Green and Co., price 6s. net, in 1911. There are five theories of corrosion, and two chapters in the book are devoted to them. (1) is the simple oxide theory, which was superseded by (2) the acid theory, sometimes called, incorrectly, the carbonic acid theory, this latter term being too narrow, because many acids induce corrosion (the theory was broached by Mr. Crace Calvert in a paper read before the Manchester Literary and Philosophical Society in 1871). Then there is (3) the electrolytic theory, which denies that the presence of acid is necessary to effect corrosion, Whitney regarding the whole subject as an electro-chemical one, the rate of corrosion being simply a function of electro-motive force and resistance of circuit, while water is assumed to be an electrolyte, a small proportion of its molecules being ionised, and yielding equivalent amounts of hydrogen and hydroxyl ions. According to (4) the hydrogen peroxide theory, hydrogen peroxide is formed as an intermediate product during the formation of rust. Two molecules of peroxide are formed during the oxidation of two atoms of iron to ferrous oxide, while only one of the former is required to oxidise the two latter to rust. Mr. Friend demonstrates that "against this theory a whole army of facts can be arrayed." (5) The biological theory assumes that the lowl·· forms of life enter into the reactions: the reasoning being thus summarised by Mr. H. Richardson: "The facts that oxygen, water, and carbon dioxide are necessary; that iron does not rust when immersed in boiling water and then sealed up; that certain solutions are said to inhibit rusting (e.g., potassium ferrocyanide, a poison), and that certain other solutions encourage rusting (e.g., ammonium chloride and perhaps sea water; compare the composition of plant-culture solutions); that iron is a constituent of chlorophyll, and that rusty nails sometimes cause blood poisoning; all these facts suggest a case for inquiry." Although it is alleged that there is an organism which lives by decomposing ferrous carbonate or organic ferrous salts, with the precipitation of rust, Mr. Friend is unaware of the existence of any organism which can feed on metallic iron, and shrewdly adds: "Indeed, if one such were found it would have to get the iron in solution by some presumably acid secretion, which brings us back to the acid theory of corrosion again." Summing-up, he thinks it evident that there are only two theories of corrosion that command attention—the acid and the electrolytic theories.

Standard Rolled Sections.

B. T. (Brixham) writes: "Where can I obtain lists of standard rolled sections, illustrated with diagrams?"

—Manufacturers' catalogues, such as those issued by Messrs. Drew-Bear, Perks and Co., Ltd., Battersea Steel Works, Wellington Road, S.W.; Messrs. Measures Bros., 1911, Ltd., Southwark Street, London, S.E.; Archibald D. Dawnay and Sons, Ltd., Steelworks Road, Battersea, S.W.; and others give useful lists. The "Structural Engineer" section of "Specification" should be consulted; and "Lists of British Standard Rolled Sections for Structural Purposes" are issued, price 2s., by the Engineering Standards Committee, 28, Victoria Street, Westminster.

Tests of Reinforced Concrete Beams.

M. W. B. (Ipswich) writes: "I understand that the R.I.B.A. published, some few years ago, the results of tests on reinforced-concrete beams. Under what title were these results issued, and where can they be obtained?"

—Results of tests of reinforced-concrete beams (the tests made by Professor W. C. Unwin, F.R.S.) were published in 1908 in the Transactions of the International Congress of Architects, seventh session held in London, July 16-21, 1906, under the auspices of the Institute. These tests are there described and illustrated in full detail. The beams under test were made by Messrs. W. Cubitt and Co., of Gray's Inn Road, in the presence of members of the Science Committee of the Institute, who deputed Professor Unwin to take charge of the tests.

REVISED CEMENT SPECIFICATIONS

At the recent meeting of the American Society for Testing Materials held at Atlantic City, N.J., a new set of specifications for Portland cement was recommended. After four years of labour the Committee on Cement presented a revision of the requirements for Portland cement, in the present standard specifications for cement, adopted in 1904 and slightly revised in 1908 and 1909. The latest revision consists in an entire rewriting with a number of changes in the requirements and the incorporation in them of the method of making the tests. The requirements for natural cement have not as yet been revised, although the new methods of making tests will apply to the natural as well as to the Portland cement.

Below are given the clauses of the specifications that relate to the requirements. In addition there are a large number of sections relating to the methods of testing. The main differences between it and the old A. S. T. M. Standards are as follows:

Fineness has been increased from 75 per cent. to 78 per cent. through a 200-mesh screen, with no prescription for the 100-mesh screen in the new specification. The permissible SO_3 content has been increased from 1.75 per cent. to 2 per cent. and the MgO content from 4 per cent. to 5 per cent. The time of initial set has been increased from 30 min. to 45 min. as read on the Vicat needle and an alternate permission to use the Gillmore needle has been included. The neat test for tensile strength has been omitted and the 28-day tensile requirement for 1:3 mortar briquettes has been increased from 275 lb. per sq. in. to 300 lb. per sq. in. The normal air and cold-water tests for soundness have been eliminated and only the steam test retained.

The first fifteen clauses of the specifications follow:

1. Portland cement is the product obtained by finely pulverising clinker produced by calcining to incipient infusion an intimate and properly proportioned mixture of argillaceous and calcareous materials, with no additions subsequent to calcination excepting water and calcined or uncalcined gypsum.

I. Chemical Properties.

2. The following limits shall not be exceeded:

Loss on ignition, per cent.	4.00
Insoluble residue, per cent.	0.85
Sulphuric anhydride (SO_3), per cent.	2.00
Magnesia (MgO), per cent.	5.00

II. Physical Properties and Tests.

3. The specific gravity of cement shall not be less than 3.10 (3.07 for white Portland). Should the test of cement as received fall below this requirement, a second test may be made upon an ignited sample. The specific gravity test will not be made unless specifically ordered.

4. The residue on a standard No. 200 sieve shall not exceed 22 per cent. by weight.

5. A pat of neat cement shall remain firm and hard, and show no signs of distortion, cracking, checking, or disintegration in the steam test for soundness.

6. The cement shall not develop initial set in less than 45 min. when the Vicat needle is used, or 60 min. when the Gillmore needle is used. Final set shall be attained within 10 hrs.

7. The average tensile strength in pounds per square inch of not less than three standard mortar briquettes, composed of one part cement to three parts standard sand, by weight, shall be equal to or higher than the following:

Age at Test. Days.	Storage of Test Pieces.	Tensile Strength. Lb. per Sq. In.
7	1 day in moist air, 6 days in water	200
28	1 day in moist air, 27 days in water	300

8. The tensile average strength of standard mortar at the age of 28 days shall be higher than the strength at 7 days.

III. Packages, Marking, and Storage.

9. The cement shall be delivered in suitable bags or barrels with the brand and name of the manufacturer plainly marked thereon, unless shipped in bulk. A bag shall contain 94 lb. net. A barrel shall contain 376 lb. net.

10. The cement shall be stored in such a manner as to permit easy access for proper inspection and identification of each shipment, and in a suitable weather-tight building which will protect the cement from dampness.

IV. Inspection.

11. Every facility shall be provided the purchaser for careful sampling and inspection either at the mill or at the site of the work, as may be specified. At least 10 days from the time of sampling shall be allowed for the completion of the 7-day test, and at least 31 days for the 28-day test. The cement shall be tested in accordance with the methods hereinafter prescribed. The 28-day test shall be waived only when specifically ordered.

V. Rejection.

12. The cement may be rejected if it fails to meet any of the requirements of these specifications.

13. Cement shall not be rejected on account of failure to meet the fineness requirement if upon re-test after drying at 100 deg. C. for one hour it meets this requirement.

14. Cement failing to meet the test for soundness in steam may be accepted if it passes a re-test using a new sample at any time within 28 days thereafter.

15. Packages varying more than 5 per cent. from the specified weight may be rejected; and if the average weight of packages in any shipment, as shown by weighing fifty packages taken at random, is less than that specified, the entire shipment may be rejected.

DETERMINATION OF NET STRAIN IN REINFORCED CONCRETE.

Although there have been hundreds of strain measurements, on laboratory specimens and on actual concrete structures, for determining the stresses in reinforcing steel, generally with results that are consistent and apparently, therefore, reliable, there are two factors which are often neglected in the interpretation of these results. In the first place, shrinkage in the concrete has an influence on the deformation measured in that material, and the time element thus becomes of vital importance. Shall the strain measurements be made as the load is being applied or as it is being removed? What is the net strain which is the result of stress, and what value of the co-efficient of elasticity of the concrete should be used to translate strain into stress? These questions are pressing for answer, and the tests recently reported show that the subject requires further exact experimentation.

In the second place, there must exist in the steel reinforcement an initial compression of unknown intensity, due to the shrinkage of concrete in setting. Although it is realised that there are practical difficulties, it is now suggested that in future measurements of strain the reinforcing rods be drilled with test holes before they are placed in the concrete. Accurate measurements and records of the unstrained lengths could thus be made and the amount of strain due to the effect of concrete shrinkage be determined. The presence of initial compression in reinforcement is, of course, advantageous for the tension steel in beams, but in columns it is an element of danger.

In any case, the exact determination of this factor would be a great aid in the attainment of a closer approximation to the true value of the internal stress in the material—which is the ultimate object of all such strain measurements.

TRADE AND CRAFT.

Trus-Con Waterproofing Paste, Concentrated.

From the Trus-Con Laboratories, Central House, Kingsway, London, W.C., we have received an illustrated pamphlet entitled, "Science and Practice Combined in Waterproofing, being a description of Trus-Con Waterproofing Paste (Concentrated), with Directions and Specifications." It is claimed that the method of using Trus-Con waterproofing paste, concentrated, is the simplest possible. All that is required is to add this paste to the water, which is used to temper the dry mixture of cement, sand, stone, etc. The paste mixes very readily with water, forming a milk-like solution, and distributing itself evenly throughout the water, and hence being carried uniformly to every part of the mortar or concrete, leaving no weak spots where leaks could develop. The paste is colloidal, a quality of which the significance is made evident in the following extracts from the pamphlet: "The process of setting and hardening of Portland cement mortar and concrete is not alone a process of solution, hydration and recrystallisation, but is supplemented by the formation of a colloidal substance which surrounds and protects the crystals of cement that bind the particles of sand and stone together. The partial degree of waterproofness which is characteristic of Portland cement mortar and concrete is due entirely to the presence of its colloidal constituent. In its absence there would be no medium to protect the crystallisation against the action of water, which would tend to gradually soften, dissolve, and disintegrate the mass when subjected to actual practical exposure. This colloidal substance, however, is never formed in sufficient quantity to fill out entirely all the voids in the mass, and it is according to the function of an efficient integral waterproofing not only to intensify the formation of the colloid originating from the cement itself, but to add a sufficient quantity of colloid so as to fill out the voids and impart to the concrete sufficient density to render it absolutely impermeable." The instructions for using the Trus-Con waterproofing paste are given in the pamphlet, which contains also several specifications which set forth in detail the method of applying the paste to various kinds of work. Numerous testimonials to the value of the material are included.

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A ROMAN COMPOSITION.
(From Piranesi.

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SEPTEMBER 20, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1133.

EDITORIAL.

IN course of an interview with a newspaper representative, Mr. William Kaye-Parry suggested the formation in Dublin of some such tribunal as the Scottish Courts of Guild, whose acceptance of plans relieves the architect and the builder of any danger from claims for trespass or rights of light. Any allegations of "cause or just impediment" must be brought before the court when it sits to consider the plans, otherwise the aggrieved person must "for ever after hold his peace." We had intended to mention this when dealing with rights of light and air some few weeks ago, but other matters intervened and the point was, for the moment, overlooked. We are glad that Mr. Kaye-Parry has recalled it to mind; for, since "freedom broadens slowly down from precedent to precedent," it may be that this reform may yet reach us from Scotland via Dublin. Precedent being dear to the legal mind, the example of Scotland and Ireland should carry considerable weight; and the home evidence could no doubt be amply supported from abroad. Only in this land of freedom could the paradox flourish of giving excessive consideration to the rights of the individual though all the rest of the community be enslaved for it. There is no question as to the soundness of the principle of preventing any person from building to another person's injury; but it is a principle that could be often more honoured in the breach than in the observance.

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As the law stands, it offers a strong temptation to the unscrupulous to wrest it to iniquitous issues; to the timid or apprehensive, to imagine an injury that is not actual. Unfortunately, the judges seem usually to act upon a presumption that a man will not set in motion the expensive machinery of the law without having good ground for action, and hence it follows that the aggrieved plaintiff goes into court with a strong bias in his favour, while the defendant is correspondingly handicapped: a position that, we venture to say, is reflected in the judgments. If, in the eyes of the law, the plaintiff always has, *prima facie*, a good case, it is no wonder that so many defendants make haste to offer a compromise to prevent expensive litigation. It follows that there is very much more obstruction to building than the courts reveal—that the evil is far more prevalent than the newspaper records show. In effect, the law as to rights of light and air is an erratic tax on building—a tax that is as capricious in its incidence as in its amount, but pretty certain to be levied against any proposal to become an "adjoining owner," or to heighten existing premises. Instances sometimes occur in which A, having been himself victimised in the matter of rights-of-light damages, is keen to reimburse himself when his neighbour B affords him the slightest opportunity. It is a sort of round game of worry-my-neighbour, and it ought to be stopped, because it destroys neighbourliness and restrains trade. How it may be stopped Mr. Kaye-Parry has very usefully indicated, and his observations are a very welcome development of the case for reform which Mr. Quennell has so ably presented in our own columns.

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That teaching is an art and a science seems to be very inadequately recognised in practice, although the theory is ancient and unassailable. Elementary teachers are apprenticed to the trade, and subjected to a rigorous, if not very effectual, course of training. Secondary teachers may, if they will, undergo systematic training leading up to a university diploma in teaching, but the males of the species are alleged to be more often appointed on their prowess in athletic games, with excellent results, if brawn is to be set off against brain; for cricket, football, and tennis can be very effectively taught by practical example. So also can certain important points in building construction, and in technical education generally. But while the average instructor in building trade subjects may be able to demonstrate quite clearly how to handle a plane or wipe a joint, he has but little skill in dealing with the abstractions which now play so large a part in the economy of building. He may have a very fair acquaintance with the mathematics and the physical and mechanical laws appplicable to his trade, and yet be very ineffective in his efforts to teach what he knows, because he had no training in the delicate art of imparting more or less abstract knowledge to youths whose intelligence has been developed exclusively on what is "practical, plane (or plain), and solid." In fact, one of the chief difficulties in technical education is the dearth of teaching power.

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In another part of the present issue we print an interesting account of an attempt towards the training of building-trade teachers. This is the repetition of an experiment that was initiated last year at the Municipal College, Bournemouth, by the Board of Education. Apparently the experiment is regarded as being highly successful; although the inferences to be drawn from a course of instruction lasting barely a fortnight can not prove much beyond the desire of the teachers to be taught, and perhaps some inkling of their capacity for profiting by the guidance. That the mere multiplication of such short summer courses is contemplated as the sole outcome of the experiment we cannot believe. Surely it is realised by educationists that technological teachers should receive a thorough training for their work, and that it must be made worth their while to undergo that training—that is to say, it must lead up to a career: which implies that there must be created

pportunities for pursuing that career. Evening-class aching for a few weeks in the winter will not serve; nd employers should see to it that the technical schools all be filled all the year round, and in the daytime; ie Government encouraging technical education as uch as it does the elementary schools; which, indeed, ight be made the centres of instruction, thus bringing out a closer co-ordination of elementary and techni l education, with advantage to both and economy in ie matter of buildings and equipment.

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An American engineering contemporary makes the llowing intimate confession: "Engineers who have casion to design ornamental bridges or buildings ust often realise their lack of preparation in even the mplest fundamentals of architectural design." Not often as the public have realised it. More often the gineers have denied most strenuously their lack of chitectural training, or they have said that there was need for it—that, on the architect's own showing, an ject that adroitly fulfils and frankly expresses its rpose is *ipso facto* beautiful—e.g., the Charing Cross idge. Anything that an architect can do, an engi- er can, by reason of his more strenuous training, do stly better. An engineer is an Admirable Crichton, ho can go anywhere and do anything, from hemming handkerchief to dropping the middle span of a bridge to the river. And now, after half a century of unbroken and robustious self-assertion, the engineer has sudden spasm of extravagant modesty. He confesses norance of "even the simplest fundamentals of archi- ctural design." No architect would have had the art to bring this accusation against him; nor was it cessary. Red-oxide Behemoths declare its super- ity. But this accession of humility is a most hopeful gn. It virtually serves Frightfulness notice to quit r last stronghold but one. And yet one is mistrust- l of the object. If engineers intend "to design namental bridges or buildings," the effect will be in- itely worse than when they were content with eauty unadorned." But they ought to learn a little chitecture, if only they will apply their knowledge in e spirit of the architect who learns a little engineer- g. Each would then have enough respect for the ner's vacation to refrain from usurping it. Perhaps at is our engineering contemporary's idea.

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The well-meaning instructions in house-jobbing hich "A Master Plumber" contributes to the Evening News" have not escaped criticism. Householder," for instance, questions the wisdom encouraging unqualified persons to tamper with ectric-lighting installations. Dealing with the lvice that should the householder find that the fuse blown he should obtain from an electrician a short ngth of fuse wire, the critic assumes unpleasant nsequences. He says that the householder almost variably buys a fuse a size larger than that put in the supply company, with the result that the pply company's fuse blows before the consumer's se, putting the whole place in darkness. The useholder, seeing that something is wrong, imme- ately sends for the electrician, who finds the fault d removes it, and then has to notify the supply mpany, incurring much more expense than if he d sent for the electrician in the first place. But ere are consequences to be apprehended from eddling with electric wiring which are far more rious than the discovery that it is cheaper to gage an expert, and we do not think that amateurs ould be tempted to incur them. Our advice to the terprising householder with regard to his wiring stallation is that he should severely let it alone. herwise he may chance to get, very literally, "the ock of his life."

Architects and builders are somewhat deeply involved in the questions of fuel economy which were dealt with in the report of the committee upon that subject which was presented at the Newcastle meeting of the British Association. All that emerges from that report amounts merely to a confirmation of the common knowledge that the wastage is vast, and the need for economy is more urgent than ever before. Our coalfields have been for a considerable time within measurable distance of exhaustion, and events seem in conspiracy to hasten the catastrophe. That this is a matter in which architects and contractors can wield valuable influence is recognised by the committee, who make a pointed reference to "the question of improvements in the construction and installation of improved fire-grates, to which the attention of architects, builders, and the public generally ought to be drawn." Hence this note.

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This is by no means the first occasion on which we have felt constrained to refer to the subject. With one aspect of it, indeed, we dealt at considerable length. In our issues for July 14 and 21, 1909, we published a very valuable article, in which a contractor detailed his experiences as a large buyer and consumer of coal. He expounded a scientific system of buying. He had felt, he said, on starting to buy coal for a large contract near London, that the time had come to be satisfied no longer with any particular coal because it was black, but to employ some simple and practical method by which a uniform amount of steam-raising power could be secured for every penny that was spent. He insisted upon receiving for his money the standard number of B.T.U. per ton, and he found that 70 B.T.U. per penny of cost per ton was a reasonable basis for further orders. By adopting this method his firm saved £10 per week on a certain contract, or one per cent. on the gross value of the contract. If this matter were pressed by contractors, the aggregate saving would be enormous, and it would be a national economy, not only in its effect on contractors' profits, but in its conservative effect on coal; for coalowners would be careful to minimise the "slack" which could no longer be foisted on the consumer. Sir William Ramsay's suggestion, some time ago, that all the vast expense of coal-getting and its carriage over long distances by rail could be entirely obviated if the stuff were converted to energy in the mines, is merely visionary, and before it can be realised the mines will have been exhausted, unless really practicable measures of economy can be immediately and stringently enforced.

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If public health is to be maintained, good housing must be provided, is a truism that cannot be too often reiterated. It was the theme upon which many speakers played variations at the recent Congress of the Sanitary Association of Scotland. Dr. H. J. Rae said it was a waste of money to take a patient from a crowded, badly ventilated house, to a sanatorium for a few months, and after his discharge to send him back to his former unhygienic surroundings. Dr. W. F. Brown said that the expectation of the curative results of the sanatoria had not been realised. Progressive improvement there was undone on return home; housing conditions were the crux of the problem. Councillor William Graham, M.A., mentioned that in the St. Leonard's Ward, Edinburgh, the rate of infant mortality in 1915 was 189 per 1,000 births, compared with 45.4 in a well-housed ward like Merchiston. With statistics like these in all large centres, a declining birth-rate, and the ravages of war, this was not the time for weak-kneed

action in housing reform. Advocating State aid, Mr. Graham said that we are to-day faced with the plain alternatives of spending public money on good housing, or spending it in the treatment of consumption and other diseases, or on combating crime in the crowded areas. That these are all stock arguments may possibly deaden their force, but does not destroy their validity; and the whole question of housing resolves itself into the simple issue of whether the nation prefers to spend its money on effectual prevention or on dubious cure.

HERE AND THERE.

THE architectural propagandist is on the war-path again, in full feather, and as the present happens to be a time when the old world is passing away and a new earth and a new heaven are in process of appearing, the busy reformer finds ears ready to receive his gospel. But let us beware of him. He is a dangerous fellow, and instead of leading us into the light he will take us back to chaos and the slough. That he has an alluring creed and puts it forward in a winning way, we will not for a moment deny, but let us not be deluded by his sophistry. Earnest, brilliant, with a way of arresting our attention with clean-cut sentences full of that most perilous stuff—downright common-sense, he has the happiest knack of purveying his creed; but, let there be no mistake, he is the Pied Piper of Architecture, and if we follow to his tune we shall find all the good hopes of two decades of effort swallowed up in his mountain (in referring to which we may be permitted the digression of mentioning that Browning's children went in at Hamelin and came out in Transylvania, and Hamelin is on the Weser, in Prussia, so a Pied Piper should be taboo to us for evermore).

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The gospel is that the only hope for our architectural souls is to go back to "honest" building with "honest" materials; that is about the gist of it. There must be no more playing with the trimmings and fripperies of "periods" and "styles," all which are but weariness; and we must eschew "classical" architecture like the very plague. For these things have been weighed and found wanting. So henceforth there is to be an end to the study of Orders and the manners in which men have used them, for we shall be told that whatever great effects these gave when handled by Greek or Roman, Peruzzi or Palladio, Gabriel or Perrault, Wren or Cockerell, it us for us now only a sort of shirt-front architecture, mere lifeless building up, by rote and rule, of stocked and docketed pieces. Back then to "honest" building. It must be all sound stuff, and plain—plain especially it must be, according to the new gospel, else we shall surely end in disaster. And above all we must not seek after "beauty" in building; for that will come sweetly and of its own accord when we but handle stone and brick affectionately, and take a pride in leaving the marks of the hammer by which our material is wrought. All of which, the reader will readily agree, goes to make up a fine preaching campaign against the evils of our architectural past. But, alas, when we turn to the examples of this creed we find them exasperating. The god has indeed the feet of clay. This "honest" creed of building is the negation of all we have striven to learn about architectural composition and graceful form, and leads us to no better work than a sort of architectural slinging of bits together. Thus we come upon a house whose front looks as though a wall of mortar had been built and the "architect" and his men had flung brick-bats and tile and splinters of stone at it till enough had stuck in to make the surface full of "playfulness" and delight; or it may be a church which is all roof, and a fearsome roof at that, as though fashioned by a Celt who had studied at Old Nuremberg and finished his education under the direction of the Arts and Crafts Society. For my own part, I will have none of it. If there must be insistence on a manner of building, then as regards houses I discard the Garden City favourites *en bloc* and plump for the Late Georgian, and for churches I can wish for no better modern examples than Bodley gave us. And pre-eminently I believe in the architect, properly educated, drawing-board and all, as the only vehicle through which architecture may be expressed in this present self-conscious era.

* * * *

It is the delight of children, when they have piled up some card structure to a gloriously unstable height, to knock the whole thing down with a crash and then to survey the wreckage with complete satisfaction. Some larger children, in the persons of American contractors, are now playing just the same game at San Francisco. The Pan-American Exposition is finished with, and the place is given over to the wreckers. They are men with a keen sense of business and a love for a sporting chance, and having come to the conclusion that it would pay them better to demolish the structures wholesale rather than to take them down piecemeal, they are now having the time of their life. The buildings of the Exposition are for the most part of timber and "staff," heavy columns and trusses being made up of a number of unit members bolted together. The method of wrecking them is simply to bore holes in the main support about 6 ft. from the base, then to insert sticks of dynamite, and retire to a safe distance. The illustrations below show how the structures come to earth. In the one case an Italian tower (by Messrs. Bliss and Favile) completely eclipses the famous Pisa





SUPER-DEMOLITION.



MODERN AMERICAN ARCHITECTURE (SERIES II.). XI.—MASSACHUSETTS INSTITUTE OF TECHNOLOGY: CORNER PAVILION.

WILLIAM WELLES BOSWORTH, ARCHITECT.

UNIVERSITY OF ILLINOIS



MODERN AMERICAN ARCHITECTURE (SERIES II.). XII.—MASSACHUSETTS INSTITUTE OF TECHNOLOGY: CORNER PAVILION.

WILLIAM WELLES BOSWORTH, ARCHITECT.

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CURRENT ARCHITECTURE (SERIES IV.). I.—RESTORATION OF AN OLD HOUSE, NORWICH.

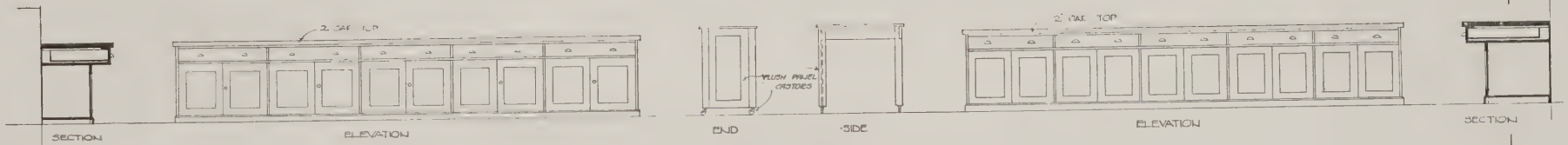
GEORGE J. SKIPPER, F.R.I.B.A., ARCHITECT.

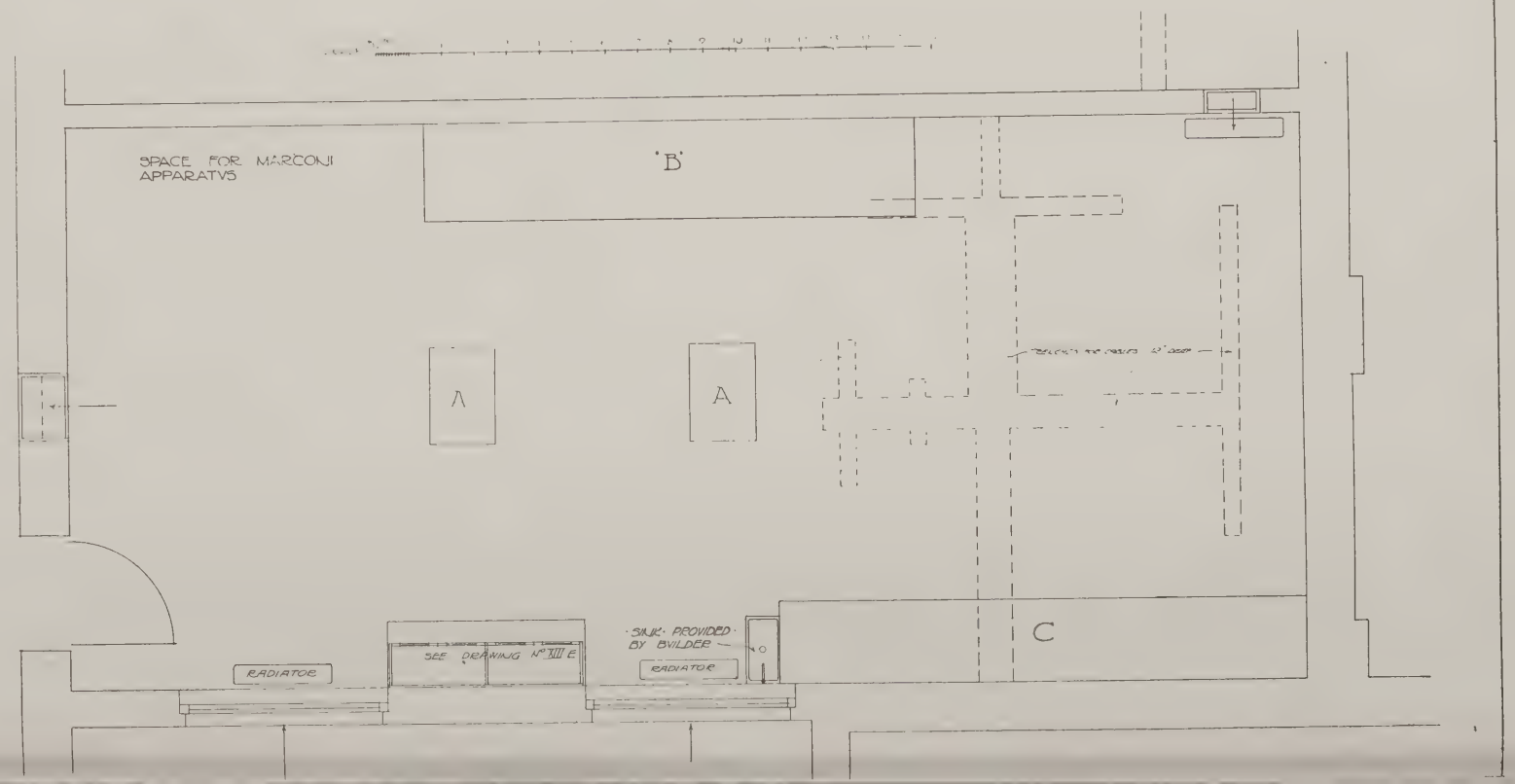
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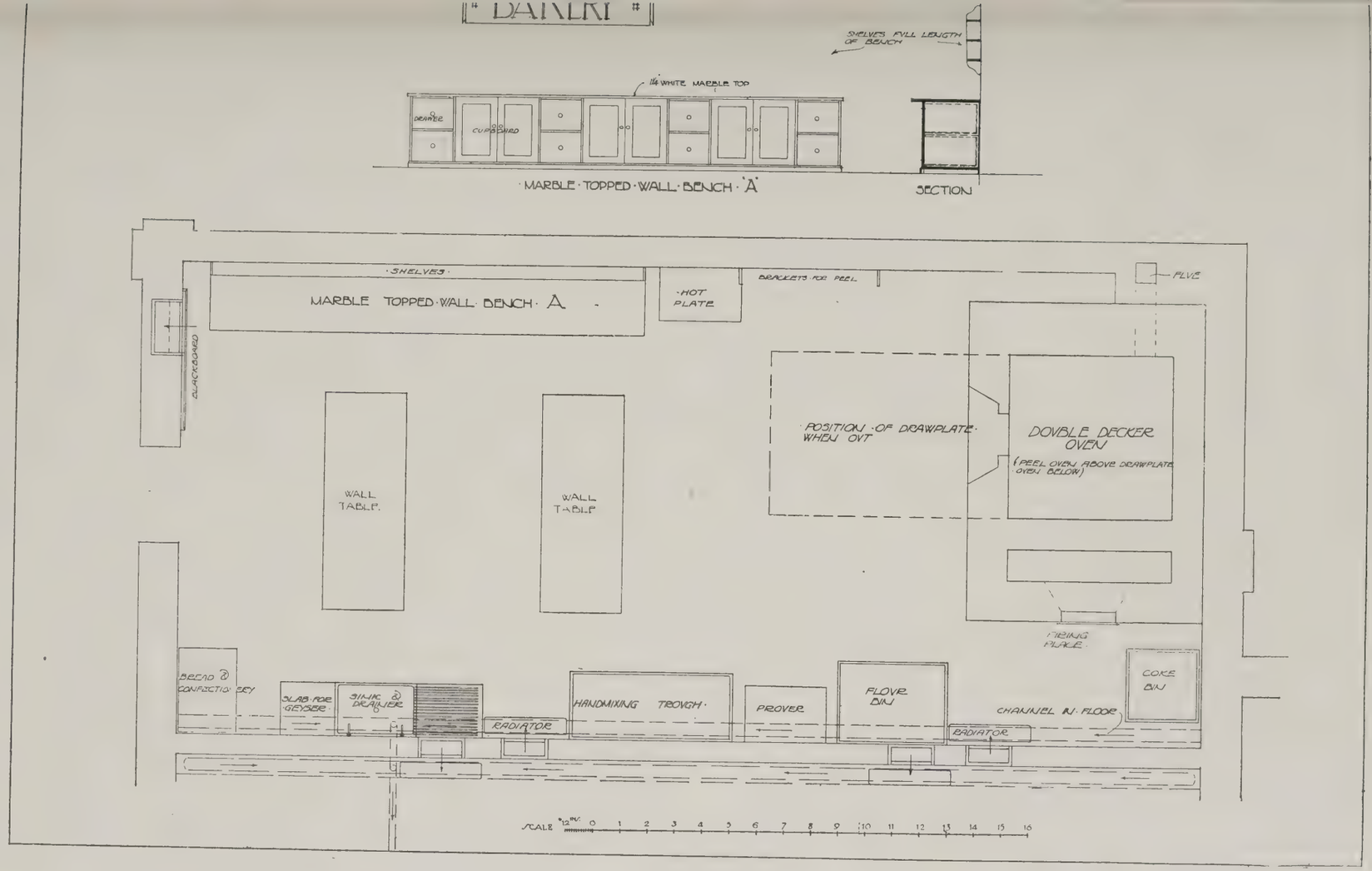
DRAWING No XVI

ELECTRICAL ENGINEERING LABORATORY





Supplement to The Electrical Engineer, London, July 28, 1905.



SCIENCE AND TECHNICAL BUILDINGS. XIII.—ELECTRICAL ENGINEERING LABORATORY AND BAKERY, CARDIFF TECHNICAL INSTITUTE.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.

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LONDON FAÇADES. XIV.—THE SOANE MUSEUM, LINCOLN'S INN FIELDS.

SIR JOHN SOANE, ARCHITECT.

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example in the matter of leaning. In the other the Arch of the Rising Sun (by Messrs. McKim, Mead, and White) is on the point of breaking itself to bits —an arch exceeding in size the Arc de Triomphe in Paris, being no less than 203 ft. high to the top of its crowning statuary of "Eastern Civilisation." It is, of course, essentially necessary, this wrecking business, because the site has to be cleared and restored for San Francisco's everyday needs. But one may suppose that those who spent their time and labour in designing and erecting these structures must experience a pang at the sight of their being thus thrown to the ground. The architects, however, may recall with some degree of satisfaction the fees they received, and then, musing o'er the ruins, can mutter, sentimentally, *Sic transit gloria mundi.*

UBIQUE.

THE PLATES.

Corner Pavilions, Massachusetts Institute of Technology.

THESE two illustrations complete our series of plates of a very noteworthy building. No other features are more striking than the corner pavilions to the principal court. They are splendidly conceived, and, in addition to their architectural composition, display a fine use of lettering as decorative relief. One pavilion bears in large letters on the frieze the names of Newton and Franklin, while on the other are the names of Pasteur and Lavoisier, and above, on the attic, are the names of other great scientists and noted men associated with technology.

Restoration of an Old House at Norwich.

The building shown in the drawing belongs to the Ecclesiastical Commissioners. It was thought to be of no architectural interest. The roof was in a bad state, and Sir William Dibdin happening to see it, wished it to be repaired. The architect, Mr. George J. Skipper, F.R.I.B.A., of Norwich, began therefore with the roof, and then evolved the design for the half-timbered gable; he found a drawing at a sale showing a very similar gable which existed on a house since pulled down. Later, old walls covered with plaster had to be dealt with, and in the course of this work the ground-floor window openings were brought to light, as well as a little priest's doorway, which is preserved as built. An old fireplace was also disclosed, but fell down before it could be preserved. The tower archway is certainly one of the beauty spots of old Norwich. The buildings seen through the archway are part of the same range of old ecclesiastical buildings (now cottages) as this front gabled portion. Some think the whole range forms the rear block of buildings belonging to the Duke of Norfolk, of which the old Strangers' Hall forms the chief part now.

Bakery and Electrical Engineering Laboratory, Cardiff Technical Institute.

The illustrations are very complete in themselves, but the following notes are of service: In the bakery most of the apparatus is movable, with the exception of the marble-topped table, the hot-plate, and the sink. There is a good supply of gas points along the wall, and electric power cables are led into the room, though for the present it is not proposed to introduce any machinery. The bakery will be used for demonstrating the methods of preparing both bread and confectionery, and the fittings have been designed accordingly. The room is well lighted by a continuous skylight during the day and by semi-direct electric light in the evening. In the electrical engineering laboratory trenches are provided for carrying cables under the floor, from the switchboard to test benches, motor-generators, and motor bench. The arrangement provides for permanent connections from practically all apparatus to the switchboard, and avoids the use of a lot of temporary wiring during tests, which confuses students. The switchboard is of the plug type, with all connections drawn in on the front of the board and fully labelled. This allows students clearly to follow the connections, and, by means of suitable connecting jacks, to complete the circuits for any particular test.

Façade of the Soane Museum.

What is now the Soane Museum in Lincoln's Inn Fields was, of course, originally the town house of Sir John Soane. It displays pre-eminently the merits and the defects of that architect's work. Within, there are many strange fantasies, such as the dining-room chimneypiece and the ceiling of the front room on the ground floor, but the façade is comparatively free from eccentricities, and is in fact a very interesting example of a house front. There was originally a loggia on the first floor, but later the openings were filled with windows, as at present existing. Most people think that the façade is of stucco, but in reality it is of Portland stone, painted.

CORRESPONDENCE.

Architectural Dug-Outs.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Judging from the planning of the dug-outs recently captured from the Germans, as shown in your issue for last week, it is clear that an enemy architect was employed to assist the military engineers in rendering these underground halls habitable. The timber construction is of the simplest post and pan type, a series of timbers in baulk, spaced six feet apart, being used as storey posts, these in turn supporting the floor timber, and the beams carrying the wood sheeting immediately beneath the earth. There is nothing special in the construction, and in many ways the British dug-outs, while of a temporary nature, are far stronger and more scientific, inasmuch as they follow the system of braced props which is a feature of mining practice. Yet, notwithstanding the elementary principles employed by the Germans for what they considered permanent underground dwellings, a certain decorative character pervades these specimens of Teutonic ingenuity, particularly the banded neckings to the upright post and the paper wall ornament which serves as a cornice. At first sight one is reminded of the storey posts and beams which in the days of the wooden walls distinguished three-deckers; then one thinks of the roof timbers associated with the factories of the century before the last, and finally one decides that timber construction offers many possibilities for small modern buildings. A study of these dug-outs may lead to an extensive employment of timber for rebuilding farmhouses and cottages in the areas devasted by the War. This idea does not imply a return to the half-timber designs of Cheshire and Herefordshire, but an adaptation of the wooden houses of the Colonial period in America and of the Russian "daitcha." The ground floors of such new buildings should be of concrete 6 in. thick, a plinth of brick, stone, or concrete should form the base, and on this the storey-posts and uprights could be raised. The spaces between the vertical timbers would then be filled with concrete slabs 3 in. thick and the exterior finished with weatherboarding, either painted, distempered, or tarred. This is not intended as a model specification, but only as an idea of the possibilities of using timber economically. The result, architecturally considered, would be practical and graceful.

London, S.W. F.R.I.B.A.

SCOTTISH NATIONAL BUILDING CODE.

As we recorded in our issue of January 19, page 25, there is now published and obtainable, through any bookseller, or from any of the firms which issue Government publications, a Scottish National Building Code (price 6d.) which consists of regulations for entering into and carrying out contracts for building works in Scotland, together with general conditions of contract and form of contract.

The document was the outcome of conferences in 1915 between representatives of the various architectural societies of Scotland, the Faculty of Surveyors of Scotland, the Scottish National Building Trades Federation and other trades, representatives of various Government, municipal, and local authorities being also present. Sir Geo. R. Askwith presided. Some useful comments on it from the English contractor's point of view appear in the "N-F-Record," the official quarterly of the National Federation, from which these extracts are made. The "Record's" running commentary is of much practical interest.

It is stated in a note that these general conditions of contract have been drafted upon the basis that it is essential to provide: (1) That the drawings and specification shall represent the work to be contracted for, and shall not be taken, . . . "merely as showing what is at present contemplated and intended, subject to such modifications and alterations as may be hereafter made"; and (2) that the sum which shall become due to the contractor . . . shall be fixed, as far as practicable, before the contract is entered into. It is further remarked that, in order that the employer may know what he will have to pay and the contractor what he is to receive . . . schedules of quantities should represent the work embodied in the drawings and specification and should not be prepared merely to perform the functions of a schedule of rates. It is pointed out that this course is the more necessary in view of current methods of trading which compel contractors to order materials from merchants in definite quantities or to be supplied during a stated period. Consequently, unless the contractor knows, when tendering, precisely what work he has to carry out, his tender must be based largely upon speculation. He is placed in the dilemma either of inflating his prices to meet any possible rise in market prices which may occur before he is in a position to make provision for material to be supplied by him, or of taking the risk of possible loss. In the latter event he may be tempted to formulate fictitious claims or to substitute inferior materials and workmanship. It is in the interest of employers and of reputable contractors to eliminate, as far as possible, such speculation, and to have the work priced on the basis of definite rather than indefinite factors.

Lump Sum Contracts.

It would appear that the kind of contract favoured in Scotland is the lump sum contract, whereas in this country the quantities part contract is more generally preferred. The reason for this preference is that unless the original quantities are taken out by a competent quantity surveyor, the contractor cannot have confidence in them and there is no provision in the usual conditions applicable to lump sum contracts for the correction of errors in the taking out of the quantities. As will be seen later on, the Scottish form gets over this objection. The Scottish condition of contract is preceded by certain regulations designed to facilitate its use and application under various circumstances, such as where public authorities are concerned.

Preparation of Quantities.

Among the regulations is the following important provision: "All schedules issued shall be prepared in accordance with the mode of measurement known as the Scottish Mode for the Measurement of Building Works 1915-16." This is a valuable and important improvement, since it secures a reasonable uniformity of practice in the preparation of quantities to which we have as yet no parallel in this country.

In order to meet any incompleteness in the standard mode of measurement it is further provided that: "In those trades where the Scottish mode may not be completed, the mode of measurement adopted shall be stated in the schedule."

Another provision is: That persons tendering shall be held bound by their offer for the period stated in the form of offer, and where no such period is stated, for a period of twenty-eight days from the date fixed for lodging offers.

Schedules of Quantities.

It is further provided that, if requested, priced schedules shall be furnished (*a*) with the tender, (*b*) before the tender is accepted.

Where priced schedules accompany the tender they are to be sealed up in a separate endorsed envelope, and if the tender is not accepted must be returned unopened, unless permission to open has been obtained. In the case of the three lowest tenders the envelopes may be opened without permission. All schedules shall be returned to persons unsuccessfully tendering.

There is also a proviso that at the time the contract is entered into, security may be required by the employer for its due performance or by the contractor for the payment of moneys to become due under the contract.

The general conditions of contract follow the usual lines, with which we are familiar in the R.I. Form, but attention may be called to the following points of difference, which may be of interest to us in England.

In the clause (12) setting forth the value of work included in schedules of quantities, it is stated that, if it shall be found that any work shown on the contract drawings or described in the specifications has been omitted from the schedule of quantities, or if the quantities have been under or over-stated, any such errors shall be rectified—the price to be adjusted accordingly.

Provision is made in Clause 15 for the adjustment of rates in schedules, where there is a measurement up for extras and omissions at completion, by correcting any errors in the calculations of the contractor and the adjustment of any percentage which he may have added to or deducted from his tender.

Alterations and Omissions.

There is an important provision in Clause 16 for compensating the contractor for loss owing to alterations and omissions in the event of his being able to show that before receipt of notice of the intention to vary the works he had materials bought or prepared for the purpose of the original contract and will thereby suffer loss.

There is also provision for an allowance to be made in respect of excess quantities of material if the total quantity thereof in the completed work exceeds what was provided in the schedules by more than 5 per cent., in the case of metals, or by more than 10 per cent., in the case of other kinds of material. The allowance is to be equivalent to any difference beyond 5 per cent. which there may be between the market prices at the date of acceptance and the date at which the contractor might reasonably be presumed to have had to make provision for the supply of such excess quantity. In regard to prime cost items, the goods are to be net after deducting all discounts with the exception only of discount for cash, to the benefit of which up to the limit of 5 per cent., the contractor shall be entitled.

In the case of articles provided by the employer, the cost of carriage on returned empties will be refunded to the contractor with an addition of 10 per cent.

Architect's Responsibilities and Certificates.

Clause 27 deals with defects to be made good, and after providing the usual contractor's responsibility for his work, says, "but if it can be shown that any such failures have arisen in the work due to a defect in the architect's design or to instructions given by the architect, then the same shall be made good as extra work under these conditions, if so required by the architect."

That is a remarkable proviso, and indicates a different point of view among architects in Scotland from what appears to prevail here.

The Scottish conditions make the architect's certificate for the final balance conclusive—in the R.I. Form it is not so. Clause 30 provides that if the architect should fail to certify the sums to which the contractor is entitled, or, if the final adjustment of the accounts is not completed within three months after the works have been completed, the arbiter shall have power to award interest at 5 per cent., on the sums which have become due, should he consider that such certificates have been unreasonably withheld or such final adjustment unreasonably delayed by the employer or those acting on his behalf.

Sub-Contractors.

Sub-contracting is not allowed except by written consent, but the position of sub-contractors is recognised in a way which would be much appreciated by that class in this country, for, in Clause 31, provision is made regulating payments to sub-contractors.

In the case of a single contract for the whole work where the sub-contractor have been approved it is provided that the architect shall state in his certificates the amounts included in respect of the work of the various sub-contractors, and the principal contractor shall, as soon as possible after receiving payment of the instalment due to him on the said certificate pay over to the sub-contractors the proportion thereof to which they may be entitled and the principal contractor shall not be entitled to obtain another certificate for a further instalment unless and until he satisfies the architect that he has settled with his sub-contractors for their proportions on the previous certificate. Further the architect shall notify each sub-contractor of the granting of such certificate and of the amount certified for him.

"The provision shall not infer or involve any contract between the employer and the sub-contractors or any responsibility or liability on his part towards them."

If the R.I.B.A. had not set its face against collaborating with the National

Federation and the Institute of Builders in he preparation of a recognised form of ub-contract such a clause would have easonably met all requirements of sub-ontractors in this country.

The arbitration clause, though much horter than that in the R.I. Form of ontract covers substantially the same round.

The actual contract agreement is quite hort, and does not call for special emark.

THE QUEBEC BRIDGE DISASTER.

By the collapse of the central span of he Quebec bridge across the St. Lawrence, n September 11, more than twenty lives vere lost. In 1907, two years after the con-truction of the bridge had begun, the fall f the southern span resulted in the loss f seventy lives. A discussion of that isaster appeared in our issue of Septem-er 18, 1907, when the differences between merican and British engineering practice vere compared, and it was suggested that merican engineers did not at that time, s a rule, allow a sufficient factor of safety. he present accident, however, if brief able messages are to be trusted, seems o have arisen not from any fault in the esign, but from some hitch in the hoisting rocess.

According to a description of the rrangements for hoisting the span, it was o be placed by floating it at high tide eneath the gap between the ends of the antilever arms and attaching to its orners suspender bars by means of which he span would be jacked up in short lifts. ight 1,000-ton jacks, two at each corner, ere to be used, and the span was to be uided during its ascent by two hanging usses.

At the date of this description all the ain members of the structure had been ompletely erected, and work was then eing hastened on the installation of echanical equipment required for placing e centre span. This span was a struc-ure 640 ft. long, 110 ft. high at the centre, nd 88 ft. wide. It would weigh, in the ondition in which it was to be lifted to lace, more than 5,000 tons. It was rected at Sillery Cove, three miles below e site of the bridge, and was to be floated place on six large pontoons constructed r the purpose, three being used under ach end. Long steel links suspended om the four corners of the cantilever rms were to be connected by means of ins to the floating span at the extreme ood tide, when the current would be least. s the tide receded the pontoons would ll away from the superstructure, leaving suspended. The jacks were then to be brought into play, and the span slowly lifted to its proper elevation and coupled up. The whole operation, if everything worked smoothly, would not require more than twenty-four hours.



CENTRAL SPAN OF QUEBEC BRIDGE. 640 FT. LONG AND WEIGHING MORE THAN 5,000 TONS.

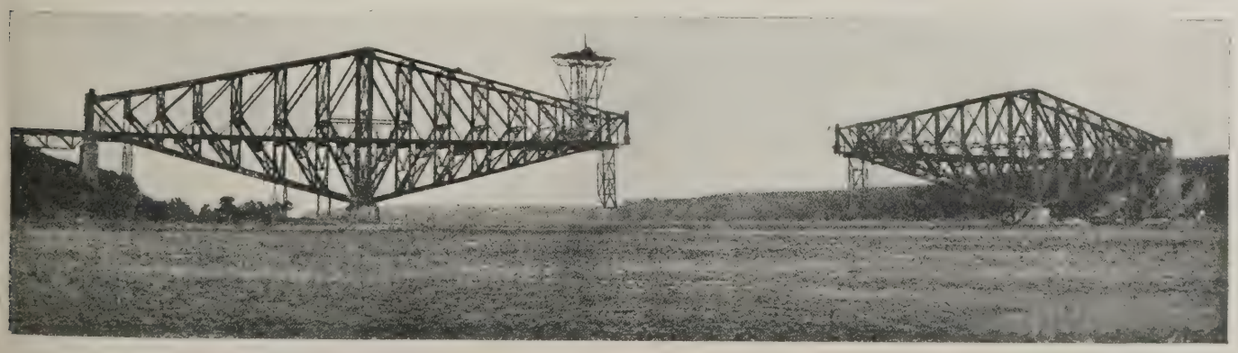
A 12 to 16-ft. tidal range, producing currents of six to eight miles at the bridge, materially increased the difficulties involved, and a quiet day, with practically a complete absence of wind had to be chosen.

Observations of the weather have been carried on with considerable elaboration during the past two years, and records have been prepared showing the probabilities at this season. A wireless storm detector was installed at the bridge site, and records of this have been taken for the past year. This indicator shows the approach of an electrical storm about six hours before it arrives. The bridge was also kept in close touch with the meteorological observatories in Toronto and Quebec, so that all data were available as soon as they were obtained.

REBUILDING DUBLIN.

Mr. William Kaye-Parry, the civil engineer and architect, discussing with a "Dublin Daily Express" representative the construction of buildings to replace those destroyed in the rebellion, expressed the desire to assist the Corporation and facilitate property owners in the general rebuilding. He suggests that in order to expedite the work and avoid the possibility of subsequent litigation in claims for trespass or "ancient lights," an independent tribunal should be formed which would consider the plans of all buildings to be erected. Mr. Kaye-Parry referred to the existence of such a tribunal in Edinburgh, which is known as the "Court of Guild." The court in examining plans would, in dealing with the question of approval or disapproval of the architect's designs, take into consideration any objections made by adjoining property owners in respect of ancient lights or any other claim, such as for encroachment or trespass.

In this procedure every owner proposing to build could be given as great facilities as possible consistent with his neighbours' interests. The most practical result of the formation of such an examining body would be the saving of expense, costly litigation being avoided. Not infrequently the time of the court is occupied in the hearing of suits arising from claims for the interference with ancient lights where the cause of action is vexatious or the grievance an imaginary one. The approval of plans by the tribunal would at once dispose of any objection, and once the building had gone up no claim could be entertained or any action instituted against the owner. Another of Mr. Kaye-Parry's suggestions, which was well received by the members of the Corporation, with whom the architects conferred recently, was, that with the consent of the adjoining owner one wall should suffice between two buildings, and that it should not be necessary for each house to have independent party walls. It is suggested that where a wall sufficiently strong to prevent the spread of fire, already exists, it should not be necessary, in building a new house to adjoin, to erect a separate party wall. This would have the effect of cheapening construction and provide more room space, an important consideration where rents are high and space valuable in all buildings in the leading thoroughfares.



MAIN TRUSSES OF QUEBEC BRIDGE READY TO RECEIVE CENTRAL SPAN.

PROPOSED KITCHENER MEMORIAL COTTAGES.

A writer in the "Morning Post" elaborates a scheme for the provision of dwellings for disabled soldiers and sailors. This scheme, he holds, would provide an appropriate memorial to Lord Kitchener, seeing that as a soldier and patriot Lord Kitchener's immense popularity was due in no small measure to his constant and painstaking care of the health and well-being of the rank and file serving under him.

It is freely admitted on all sides that there is a great shortage of housing accommodation in and around most of the big towns. Rents are very high, and owing to the increased cost of building must tend to become still higher. As an average figure, it may be stated without fear of contradiction that, inclusive of rates (which are a very great factor in all housing calculations), it is impossible for a working man with a family to secure anything like proper accommodation in or around London or the large towns under 7s. to 10s. per week.

No scheme of pensions is likely to be on such a scale as will enable the partially disabled and those who can no longer follow their trade to pay such rents as these, whether the houses are provided by private enterprise or under the Housing Acts.

It is suggested, therefore, that every county should have an opportunity of erecting a permanent memorial to its brave men by the erection of groups of well-built, well-drained cottages in the vicinity of those towns where the county regiments have their headquarters, or in the vicinity of the great Naval depôts.

The houses would be built in blocks of six or twelve (not more than twelve in one locality), grouped round areas of land sufficient to provide each either with a large garden or an allotment of about twenty poles. In addition there would, wherever circumstances permit, be a small recreation ground where the children of the occupiers could play. A general workshop would also be provded with each group of cottages to be used for educational purposes and by the men as a hobby.

It is not suggested that the cottages should take the form of almshouses, nor that any taint of pauperism should attach to their occupation, but that (*apart from the initial cost*) *they should be in every way self-supporting*. The rents charged would be sufficient to cover the cost of repairs, rates, insurance, and management, plus a contribution to a general benefit fund to provide better opportunities in life for the children of those coming under the scheme. A financial statement shows that, on the basis of 2,000 cottages, this benefit fund would amount to about £5,000 a year, after providing a home and allotment for 2,000 families at least, at a rent which they could afford to pay, and which, generally speaking, would be 50 per cent. below that paid for poorer accommodation under quite different conditions.

The benefit fund would be used for practical purposes, such as the apprenticing of boys to trades, additional education, grants to those wishing to emigrate to British Colonies, and so on. In other words, these children would have secured to them the same opportunities for rising and doing well in the world as would probably have been their lot under conditions prevailing prior to the war.

The general scheme of the organisation would be a permanent administrative Board in London, acting in conjunction with County Committees of representative men, who would delegate members to sit upon the board. The provision of land, the erection of the cottages, and all financial matters would be under the direct control of the board, while the County Committees would select the pensioners and their successors by ballot. They would also make recommendations for apprenticeship, education, and other grants, and deal with all matters personal to the pensioners. Complete freedom of action to the occupants would be given, but it is anticipated that a large amount of help and advice in matters of difficulty could be rendered by individual members of the County Committees to pensioners.

The size and internal arrangement of the cottages would vary, so that the local committees would be able from time to time to adjust the accommodation to the needs of the family. For example, cottages with three bedrooms, a sitting-room, and a kitchen would be suitable for a man having a large family and a pension above the normal rate, while smaller cottages with a good living-room and two bedrooms would meet the needs of married couples with only one child.

It will be seen that the scope of this scheme is largely circumscribed by the immediate and urgent housing needs of the country, coupled with an opportunity for each county to erect a local memorial of a practical and permanent character to benefit men in the regiments and naval units to which it is more particularly attached by local sentiment.

There are some forty counties in England alone, without counting Scotland, Ireland, and Wales. A distribution of 2,000 cottages in England therefore represents some fifty cottages to a county. This means that a sum of £10,000 to £12,000 would have to be raised by each county. No great effort, surely, for an object of such permanent benefit.

It is estimated that groups of cottages and allotments could be provided at an average cost of not more than £250 per cottage.

THE TRAINING OF BUILDING TEACHERS.

The training of teachers of building subjects is continuing to receive attention by the Board of Education. A course of instruction was held at Bournemouth last year which awakened so much interest in the teachers attending that the Board decided to repeat the experiment, and a second short course has recently been conducted at the Municipal College, Bournemouth, where twenty-nine selected teachers attended daily from July 31 to August 12. Instruction was given in the method of co-ordinating and presenting to technical classes the subject matter which may suitably be included in a senior course of instruction.

The object of the course was to give guidance to qualified teachers rather than to impart original information, and the lectures were conducted with this aim in view.

A few teachers who were exempt from military service were able to continue their studies from last year's work, and spent a most useful period in determining the best methods of presenting some of the more difficult sections of the subjects and entering into greater detail than was possible in the limited period of last year's course.

The teachers attending for the first time concentrated on the grouping, selection of subject matter, and class procedure for students passing through a first-year course of senior work in a recognised building grouped course.

As previously, the group of subjects consisted of building construction and drawing, building mathematics and geometry, and building science.

The constructional subject was treated from an architectural standpoint, every effort being made to cultivate a sense of good proportion in the details of building work, while maintaining a correct relation between parts of any building which might have been selected for study.

The necessity for improvement in the standard draughtsmanship and the grouping of details was impressed, and a large number of carefully prepared pencil drawings graded for the class work in senior courses was exhibited.

The mathematics and geometry lectures dealt very fully with the building treatment of this subject, and aimed at impressing the teachers in attendance with the scope of application of algebra and calculations available for specialised use.

Practical geometry is usually well and adequately taught by building teachers, while the mathematics has systematically been neglected. This neglect is not justified, and has caused a great weakness in the consideration of structural problems arising in connection with large buildings in more advanced courses of instruction.

In the above-named lectures the groundwork necessary for building students was fundamentally treated, and made more appealing than usual by presenting truths by concrete forms and the free use of models and apparatus.

The course outlined shows the practicability of obtaining close relationship between the mathematics and plane and solid geometry.

The subject of building science was divided into lecture work and practical experiments. An interesting and very satisfactory collection of experimental investigations were gone through and the main points of difficulty explained and demonstrated. Each teacher in attendance completed a considerable number of the experiments included in the course, and prepared valuable notes of the principles verified.

This experimental work will do much to establish further the value of practical building science, which is a new subject in courses of instruction for building students. The experience gained will undoubtedly assist in developing the teaching of this important subject, which is a means of imparting information that cannot be soundly obtained from theoretical instruction.

The work of the course was supervised by Mr. Hugh Davies, His Majesty's Inspector of Building Schools, and the following gentlemen took charge of the subjects forming the course group:

Mr. W. R. Jaggard, F.R.I.B.A., of the Northern Polytechnic Institute, London (building construction and drawing); Mr. F. E. Drury, F.I.S.E., M.C.I., head of the Department of Building and Civil Engineering, Royal Technical Institute, Salford (building mathematics and geometry); Mr. A. R. Sage, vice-principal of the London County Council School of Building, Brixton, and Mr. A. Everett, B.Sc., of the same school (building science). Mr. W. Munn Rankin, M.Sc., the head master of the Municipal College, Bournemouth, performed the duties of secretary to the course most efficiently.

NEW INFIRMARY AT EYE.

A new infirmary at Eye, Suffolk, for the ırtismere and Hoxne Unions, was ened last week. It has taken three ırs to build and complete, and stands on vated ground abutting on the G.E.R. e just outside Eye Station, the land :upied being about seven acres in extent. this the buildings absorb 2½ acres, and m a compact block, with the adminis- ıtive part in the centre, the wards as ngs, the dining hall with chapel above, d other buildings being in the rear. In- ıding staff, there is accommodation for 5 people in the main buildings—a few ıre can be quartered in the receiving and ectious wards, which are quite detached— nprising 62 men, 70 women, 14 children, d a staff of 29. The central portion of e main block, which is set apart for ministration, has three storeys; the ound floor provides accommodation for master, matron, and nurses; the first or for the doctor's surgery, operating m, and maternity wards, and the second or for the master's and nurses' bed- ms. Above these and between the roof ıbers are massive iron tanks, with a acity of 10,000 gallons, which supply water for the whole institution. Here, , the water is softened. The ground- or sleeping wards and day-rooms of men d women, which are themselves sub- ided, are for the infirm, while those ve, which are similar, are for the sick. e verandahs, approached from each of wards, are on the south side, and thus winter afford protection from the cold nds. The upper wards, being proached by four separate stone stair- es, afford adequate escape in case of e. In the rear of the dining-hall, which immediately behind the central block, the culinary department. The latest king appliances have been installed, d it is noteworthy that all meat and getables are cooked by steam. Still ther in the rear, and forming another ck, are the laundry buildings, in which latest labour saving appliances have n introduced. Two large vertical 22-ft. g boilers generate the steam for heat- the whole buildings by hot water, as ll as for the laundry, the cooking, pump- , baths, and domestic supply. Attached the boiler-house are workshops and res, as well as quarters for four able- died persons—presumably for the commodation of members of the perma- nt working staff employed in this part of infirmary.

The whole of the buildings are lighted air-petrol gas, which is made by two all engines from 2 per cent. of petrol d 98 per cent. of air. Not only are the ire buildings heated with steam radia- s, but there are fire-places in addition, ich can be used in exceptionally cold ather. The board room, which gives commodation for seventy-five Guardians, ms part of a separate block, which addition comprises committee room, rk's office, porter's lodge, receiving rds, etc.

The walls throughout are built of brick, h outside red facings, and the roofs covered with glazed pantiles. The ide woodwork is stained and varnished ique oak colour, and the walls are stered and coloured. Pitchpine wood cks are used for the floors of the down- ir-rooms, while pitchpine boards, all of ich are polished, form the floors of the stairs rooms.

The architect is Mr. Herbert J. Green, R.I.B.A., of Norwich, and the general lding contractor Mr. J. Gibbons, of wfield.

VICTORIAN HARDWOODS.

The question of utilising Victorian hardwood more extensively in public buildings without causing a large increase in expenditure has been under consideration by the Australian Minister for Public Works for some time past. Mr. Adamson stated that he was so satisfied with the suitableness and cost of the timber that he had issued directions to his department for a more extensive use of Victorian hardwood weatherboards and linings for new public buildings, and for extensions of existing buildings, where practicable. Internal finishings of plain design were to be of the same material, and it was anticipated that, with the simple method of oiling the surface lightly, or leaving the natural wood finish, the ultimate cost would be less than if the work were done with imported soft wood. Directions had also been issued that school fittings and office furniture and fittings for the public departments were to be constructed of Victorian hardwood, and experiments were being made to ascertain whether Victorian hardwood could be used in school furniture, at a cost which would compare favourably with Queensland hoop pine, which had been used largely for some years. Every effort would be made to introduce to the fullest extent Victorian hardwood in the new University buildings, for which working designs were now being prepared. An arrangement had been made with the Government seasoning kiln at Newport to supply seasoned hardwood weatherboards for Government works at the rate of 11s. 9d. per 100 ft. lineal, and if the output of the mill compared reasonably with samples submitted, a distinct saving would be effected.

OBITUARY.

The late Alick Horsnell.

We reproduce on this page a portrait of Alick G. Horsnell, second-lieutenant in the Suffolk Regiment, by whose death in France the profession of architecture in this country has lost one of the most talented of the younger men. A short appreciation of Mr. Horsnell appeared in our issue for August 23. We are indebted to the "Architectural Association Journal" for the portrait.

Second-Lieut. J. Reid.

Second-Lieut. John Reid, who resided with his parents at 60, Whetstone Lane, Birkenhead, joined the Cheshire Regiment on August 11, 1914, his twentieth birthday, and received a commission in the King's (Liverpool Regiment) in August, 1915. He went to the front on July 14, 1916, and was killed in action on August 18. He was educated at Claughton Higher Grade School and Liverpool Institute, on leaving which he was articled to Messrs. Morter and Dobie, architects and surveyors, Dale Street, Liverpool, and all through his career from early school life onward he was a universal favourite, enjoying something more than mere popularity among his many friends.

Mr. Edwin Jones.

Mr. Edwin Jones, builder, of Upper Northgate Street, Chester, who died last week, began business on his own account some thirty years ago. Among the contracts he carried out was the building of the Mission Church, Sealand Road, also some blocks of houses in Liverpool Road, Victoria Road, and Hough Green.



ALICK G. HORSNELL, 2nd LIEUT., SUFFOLK REGIMENT.

(*Killed in Action July* 1916.)

NEWS ITEMS.

With the Forces.

Mr. H. W. Leonard, who for the past six years has held an important position in the Publicity Department of the General Electric Co., Ltd., has recently joined up for service with the London Electrical Engineers.

A Plasterwork Contract.

Messrs. John Tanner and Son, of London and Liverpool, have been entrusted with the whole of the fibrous plasterwork of the extensions to the Manchester Royal Exchange (Messrs. Bradshaw and Gass, architects).

Memorial Prize for Building Students.

A prize to be awarded annually to the student most distinguishing himself in original work in the building department has been established at the Northern Polytechnic in memory of the late Mr. Richard Roberts.

Labour Needed for Factory Building.

It is stated that the Ministry of Munitions is still in want of labour for the completion of munition factories in course of erection, and men not eligible for the Army and not already engaged on war work can render patriotic service by applying for such work through the Labour Exchanges. Guaranteed employment at current rates of wages will be given to suitable men.

Curing Damp Interiors.

When the interior of a house wall is discoloured through dampness, the trouble may possibly spread and cause much expense. Instances are known where the plaster and the woodwork have perished through humidity. We hear that a house in Leicester which previously was exceedingly damp was roughcasted with Pudloed cement two years ago, and that the architect and his client have both expressed their satisfaction with the change which has taken place. The makers of Pudlo inform us that they can refer to several hundreds of similar cases.

Wall-Tablet Memorials.

Mr. T. W. Haigh, architect, of Liverpool, has recently designed two wall-tablets for the names of those who have joined His Majesty's Forces. One has been fixed in the "room" of the Liverpool Stock Exchange and the other in the board-room of the Liverpool Select Vestry at the Brownlow Hill Institution (Liverpool Workhouse). This latter tablet is in mahogany to correspond with the other room fixtures; the panel grounds are covered with gold leaf. The tablet in the Stock Exchange is of English oak. It is intended eventually to use copper for the permanent record in this case.

A Nurse Cavell Memorial.

A reredos to the memory of Nurse Edith Cavell was unveiled on the 10th inst. by the Bishop of the Diocese at Holy Trinity Church, Norwich. When residing at Norwich Miss Cavell was accustomed to worship at Holy Trinity, and her aged mother is still a regular member of the congregation. The reredos represents the Last Supper according to the conception of Leonardo da Vinci, and on the south-eastern wall of the chancel has been erected a brass plate bearing the following inscription: "To the glory of God the Reredos in this Church was subscribed for and erected by some admirers of Edith Cavell, the martyr Nurse, eldest daughter of the Rev. F. and Mrs. Cavell, of Swardeston and Norwich, who was shot in Brussels, October 12, 1915. To fittingly perpetuate the memory of one who laid down her life for others and ever to remind us of the power of the Cross of Christ to those who would follow as she did in the Master's train. 'Patriotism is not enough. I must have no hatred or bitterness towards anyone' (from her last words)."

Dundee Schemes.

Dundee Town Council after the war propose to embark on several schemes of improvement, which are estimated to cost £120,000. These works, according to a report submitted by the City Engineer at a meeting of the Works Committee, will include the construction of sewers, the construction of a road to the top of the Law, phthisis pavilions at King's Cross Hospital, tennis pavilions at Broughty Ferry, stables for Cleansing Department in Edward Street and Cherryfield Lane, completion of central improvement scheme, and minor street improvements—all to be executed within three years. The improvements, it was pointed out, would give employment to large numbers of labourers, stonebreakers, bricklayers, masons, joiners, plasterers, painters, and other tradesmen.

Fire Protection in a Wholesale Drapery Store.

Messrs. Mather and Platt, Ltd., of Park Works, Manchester, who are the manufacturers of the "Simplex" Fire Extincteur, have received a letter from Messrs. Price and Co., a large firm of wholesale and retail drapers in Belfast, testifying to the remarkable efficiency of these appliances. A fire broke out in the firm's store where empties, paper, fittings, etc., are kept. The fire had obtained a good hold when some members of the staff applied the six "Simplex" extincteurs which had been installed in the building. Within ten minutes (before the fire brigade arrived) the outbreak was well under control. The firm's stock and buildings are of great value, but owing to the timely application of the "Simplex" extincteurs the damage caused by the fire amounted to less than £100.

Canadian Houses for France.

In connection with the recently reported movement to introduce Canadian houses especially built for shipment to France, Senator Danderand, president of the Canadian section of the Comité France Amériqué, has informed the "Financial Post" that a semi-official Government organisation, sitting at Ottawa, will call for tenders later on for the purpose of establishing a steady flow of houses to the devastated regions of France and Belgium. The Canadian Government has intimated to the French Government that from 500 to 1,000 houses will be contributed by the former, and it is thought that this may lead to an export trade in them, temporarily at least. Seven sample houses have been sent to France. They were constructed by the Committee of National Aid of Toronto, the Ottawa Lumbermen's Association, and Montreal individuals.

Converting Shops into Houses.

At a recent meeting of Glasgow Town Council, a member asked whether, in view of the scarcity of housing accommodation in the city, the Corporation could take any steps to secure that shops, of which there were a great number at present unoccupied, be converted into dwelling-houses, in order to relieve to some extent the pressure consequent upon the scarcity of dwelling-houses. The Town Clerk pointed out that the Corporation had no power to do as suggested, but he had the authority of the Master of Works for stating that at present, and for some time past, there had been applications before the Dean of Guild Court for converting existing shops in various parts of the city into dwelling-houses. Where the reconstruction plans showed compliance with the requirements of the Building Regulations Act, permission was granted by the Dean of Guild Court, and that had been very frequent.

Norman Relics in Essex.

During the cleaning of Orsett Church, Essex, an ancient painting was discovered on the north wall. Sir William St. John Hope, formerly of the Society of Antiquaries, has been consulted, and has given advice as to preserving it. The cement which covered the Norman entrance has been removed, and the rector states that it may now be classed among the finest examples of Norman doorways in the country.

A British Red Cross Stamp.

All the Allies, with the exception of Serbia and Montenegro, have issued special stamps which sell at a premium in aid of their war charities. By this means enormous sums have been collected in farthings and halfpennies in Russia, France, Italy, and Belgium for the wounded, or for the soldiers' widows and orphans. A British Red Cross stamp has now been issued. It has been engraved and printed gratuitously by Messrs. Perkins, Bacon and Co., the printers of the first postage stamp ever issued—the historic "Penny Black" English stamp of 1840. These war stamps are being sold at a penny each, or 6d. the set of six different colours, by the National Philatelic War Fund, 151, Strand, W.C. The proceeds go to the British Red Cross and St. John of Jerusalem. The design is emblematic of Britain taking up the sword of justice, and the Philatelic Secretary to H.M. the King, in accepting the gift of a special die proof of the stamp for the King's collection, writes: "His Majesty is very pleased with the design and thinks it most appropriate."

After-War Building Boom.

The General Council of the Amalgamated Society of Carpenters and Joiners it is announced, has recommended members of that society to affiliate with the National Housing and Town Planning Council, and that the equivalent of 1d. per annum on the British membership be taken from the general funds for that purpose. The reason they advance in support of the recommendation is that over 100,000 houses will be required to be built annually after the war to meet the shortage apart from the question of demolishing slum areas in crowded industrial districts. The proposal has been submitted to a vote of the members.

In reply to the Local Government Board inquiries regarding public works to be started after the war, the Hartlepool Town Council have decided to state that they propose to proceed with their housing scheme, and other probable works are the proposed extension northwards of the Promenade, the protection of the cliffs to the south of the Promenade, and the provision of a new school at Throston; while reference may also be made to a project for a tunnel under the channel between Hartlepool and Middleton, or for a bridge over it.

ELECTRICAL NOTES.

Electrical Power Distribution.

A paper on this subject was read at the British Association's meeting at Newcastle-on-Tyne by Mr. Charles H. Merz, who has for many years been an advocate and expert on the centralisation of electric power. Owing to the action of the Board of Trade under the absurd Electric Lighting Acts, in encouraging loans to municipalities and parish councils of any size without reference to the standardisation of supply voltage and frequency even in contiguous districts, the country is wasting annually huge quantities of coal, whilst manufacturers of motors have to stock them for dozens of different supplies.

Mr. Merz stated that if all processes involving power, traction, lighting, etc., were dealt with electrically from a few centres there would be a saving of 25,000,000 tons of coal annually in the near future and 60,000,000 eventually. At present generating sets are one-twentieth the size they ought to be, and sites leave much to be desired in regard to space, coal, water, and railway facilities. The author's ideas are large, and he thinks that the nation should undertake the scheme of establishing huge power houses with standardised voltages and frequencies for each large manufacturing district. Then interconnection and trunk mains in each complete district would be possible and overall schemes could be established for extracting by-products from the coal and thus exercising further economies. Mr. Merz summarises his proposals in the following manner: First, there would be a large saving in coal as the result of the erection of plants of the most economical size. Secondly, waste heat would be utilised. Thirdly, coals which are too friable for transport would be utilised. Fourthly, coals of a value which does not stand the cost of transport and which are now left in the pit would be utilised. Fifthly, there would be a development of new carbonisation and distillation processes. Sixthly, there would be a more general use of electrical energy for all purposes. Seventhly, an increased industrial output—greater use of power in consequence of lower cost.

The Electric Vehicle Committee.

Considerable progress has been made during the past two years by the Electric Vehicle Committee of the Incorporated Municipal Electrical Association in the matter of organising facilities for road transport by means of electric battery vehicles. The constitution of the Committee is on a broad basis. It includes representatives of the parent association, the Commercial Motor Users' Association, the Royal Automobile Club, the Society of Motor Manufacturers and Traders, the provincial electric supply companies, the Electrical Contractors' Association, the British Electrical and Allied Manufacturers' Association, the Incorporated Association of Electric Power Companies, the Institution of Municipal and County Engineers, and the Tramways and Light Railways Association. The chairman of the committee is Mr. R. A. Chattock, city electrical engineer of Birmingham, and the hon. secretary is Mr. F. Ayton, chief engineer and manager of the Ipswich Corporation Electric Supply and Tramways Departments.

The electric vehicle has its own special field in goods delivery work in urban and suburban areas, and the excellent results that have so far resulted from its use by some of the largest and most up-to-date business firms would seem to indicate quite a considerable field for its extended employment in the future, not only for the delivery of merchandise, but also for passenger carrying work in and about towns and cities. The economy in operating cost and the simplicity of the mechanism are, of course, the main features of this class of vehicle.

Crompton Half-Watt Lanterns.

A leaflet has been issued by Messrs. Crompton and Co., Ltd., Chelmsford, describing a special series of lanterns which they have designed to meet the demand for lanterns and fittings to take a single half-watt lamp of high candle-power. One of these is specially adapted for use in engineering and industrial works, the design being similar to that used for the well-known "Crompton-Blondel flame arc lamp." Great care has been expended on the constructional details, as a result of many careful tests under all conditions. Clamping screws on the rim of the globe, rubber rings or other perishable materials are avoided. Amongst several advantages of this type are the fact that all the light is thrown downwards and evenly distributed, and the low cost of glass renewals. As a rule, fluted glass is supplied, but clear or muranese glass can be fitted if desired, the latter reducing the high intrinsic brilliancy of the lamp without the serious loss of 35 to 70 per cent. found with opalescent globes. Goliath screw-holders on adjustable anti-vibration brackets are provided, and the lantern can also be fitted with a second lampholder to take a lamp of lower candle power if full lighting is not always required. These lanterns will take lamps up to 1,500 watts (nearly 750 candle-power).



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MISCELLANEOUS.

September 19-20. — **PRESSES AND RADIATORS. London, S.W.**—Supply of (1) 80 presses, (2) radiators during a period of six months from October 1, for the Commissioners of H.M. Works and Public Buildings. Particulars from the Controller of Supplies, H.M. Office of Works, etc., King Charles Street, Westminster, S.W.

September 23.—**MATERIALS. Hyde.**—Supply of pitch and oil, cement, and iron castings, for the Stores Committee. Particulars from the Borough Surveyor, Town Hall, Hyde.



September 23.—**MATERIALS. Hyde.**—Supply of the following, for the Stores' Committee: Pitch and oil, cement, and iron castings. Particulars from the Borough Surveyor, Town Hall, Hyde.

September 25. — **IRONMONGERY. Croydon.**—Supply of ironmongery, etc., for the Guardians of Croydon Union. Particulars from the Union Offices, Mayday Road, Thornton Heath.

September 25.—**MATERIALS. Rosslynlee.**—Supply of the following, for the Midlothian and Peebles District Asylum: Oils and paint; timber; brushes, mats, etc.; plumbers' material; electric fittings. Particulars from the Clerk and Treasurer, 19, Heriot Row, Edinburgh.

September 26.—**BRUSHES. Ashton-under-Lyne.**—Supply of brushes, etc., to the hospital and workhouse, for the Guardians. Particulars from G. H. Partington, Clerk, Poor-Law Offices, Ashton-under-Lyne.

September 28.—**MATERIALS. Edgware (Middlesex).**—Supply of the following materials, for the Hendon Rural District Council, viz.: Broken granite, tarpaving material, tarviated granite, granite chippings and gravel; brooms, shovels, forks, etc.; disinfectants. Particulars from J. A. Webb, Great Stanmore.

September 28. — **IRONMONGERY. Powick.**—Supply of ironmongery, etc., to the Worcester County and City Asylum, Powick, for the Committee of Visitors. Particulars from the Storekeeper, Asylum, Powick.

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October 2.—**MATERIALS. Hengoed.**—Supply of the following materials, for the Gellygaer Urban District Council: Lime, stone; paving, kerb, and channel; drain pipes; cement and lime; cast-iron goods; smithwork; ironmongery; brushes; oil and paint. Particulars from T. Rees Gabe, Acting Surveyor, Council Offices, Hengoed, Glam.

November 1.—**CARBONS. Melbourne.**—Supply of 50,000 yellow-flame arc carbons (contract No. 30,405), for the Victorian Government Railways. Particulars from the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall Street, London, E.C.

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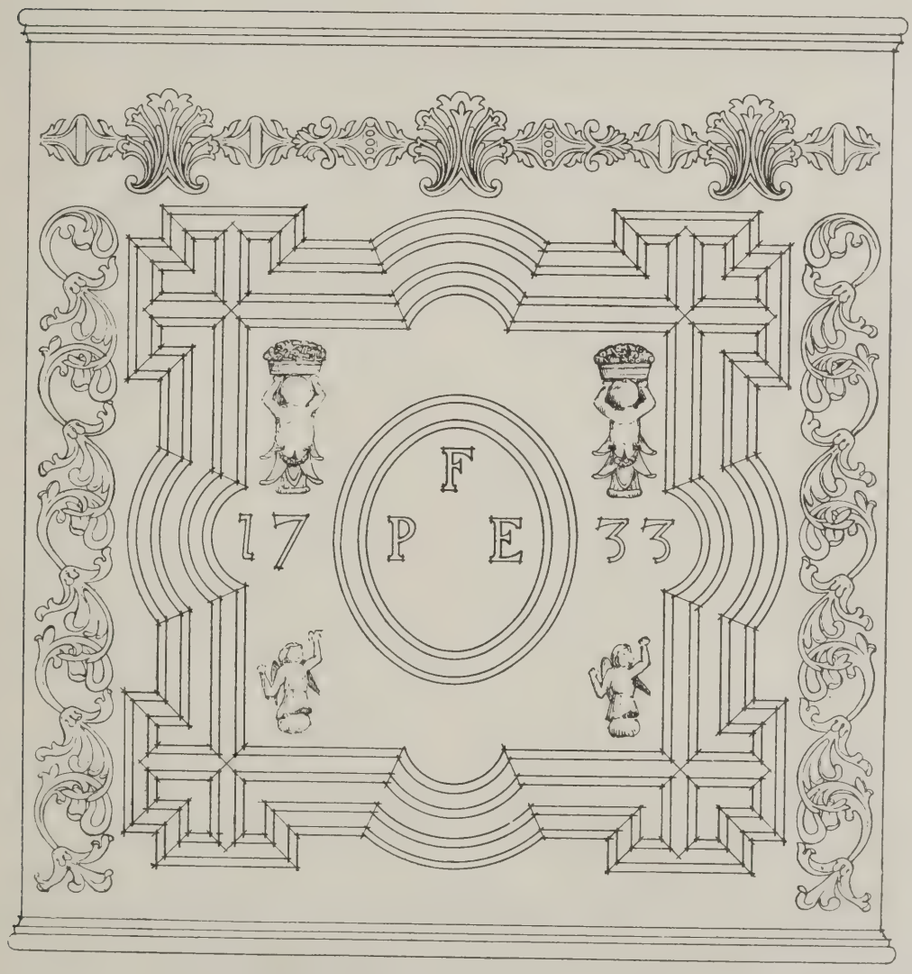
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THE
ARCHITECTS' & BUILDERS JOURNAL.

Wednesday, September 27, 1916. Volume XLIV. No. 1134.



AN EIGHTEENTH-CENTURY LEAD CISTERN.

THE ARCHITECTS' & BUILDERS' JOURNAL.

SEPTEMBER 27, 1916. TOTHILL STREET, WESTMINSTER. VOLUME 44. No. 1134.

EDITORIAL.

ALTHOUGH there are several outdoor pulpits in various places in the kingdom—that in one of the Oxford quads is, perhaps, the one that is best known—they are nowadays but seldom used. During the present war, however, there has been a vast amount of outdoor exhortation; and the Bishop of London's impassioned plea for purity was delivered (last Wednesday) from the outdoor pulpit of St. James's, Piccadilly. From this incident it is perhaps not too large an inference that such outdoor pulpits as we have may cease to be merely objects of curiosity, and may be put to regular use. In the light of present developments, it is more than ever regrettable that such a pulpit was not erected outside St. Paul's Cathedral a few years ago—in 1910, to be precise—in accordance with the express terms of the bequest of Mr. Henry Richard. It is doubtful whether there was any architectural gain by the substitution of the monument; for an outdoor pulpit not only has its uses, but is strongly expressive of the functions of the building to which it is attached, and has an uncommon power of arresting attention. During the recruiting campaign, meetings were held daily outside St. Paul's, and an open-air pulpit would probably have been convenient for the clergy who frequently addressed them. Nevertheless, the fine flight of steps on the western front, crowded with listeners with faces upturned to the white-robed clergy on the topmost steps, and the noble portico as background, form upon occasion a sufficiently impressive spectacle, without the aid of a pulpit.

* * * *

"St. Paul's Cross," as the monument in the garden on the north-east side of the cathedral is called, has in it two elements of interest that are curiously appropriate to the present circumstances. It may be recalled that the base of the monument is moulded in Belgian black marble, and that Mr. Bertram Mackennal, the sculptor who modelled the figures—the St. Paul in bronze, and the children in white marble—is an Australian by birth; and the Allies have a further accession in the interior, where the lectern is inscribed as the gift of the French in gratitude for kindnesses shown them by the citizens of London after the siege of Paris which ended the Franco-German War of 1870. As a certain guide-book says, in English that is more execrable than the sculpture it condemns, "The older monuments in St. Paul's were nearly all destroyed in the Great Fire, and the later ones in the nave are chiefly to military or naval heroes, most of them not much distinguished by artistic merit." It could not be expected of them in their day and generation. There have been examples—Captain Adrian Jones to wit—of the soldier turned artist, but they are exceptional. It would seem much easier for the artist to turn soldier, and to win high distinction in the calling.

If, in the future, more outdoor pulpits are to b built, it may be useful to refer to some examples c refectory pulpits which were illustrated in our issu for June 23, 1909. Mr. Edwin Gunn, F.R.I.B.A. who contributed the article, is now serving with th colours. His examples are from the south-eas corner of the Benedictine Monastery of St. We burgh, Chester; from a former Cistercian Abbey a Beaulieu, in the New Forest; from the Premonstra tensian Abbey, of Tupholme, Lincolnshire; an from Rievaulx, Yorkshire. What strikes us as bein the chief merit of each of these examples is that th pulpit seems to be not so much an excrescence as natural outgrowth of the building to which it attached, and that is an effect that is worth studyin A particular reason for supposing that outdoor pulpi are likely to become more common is the increasin tendency to hold outdoor services. For exampl Church of England services have been held on Blac heath, London, S.E., and in many other place during the past summer. In certain villages whe troops were quartered, the church was too small accommodate them, and consequently services we frequently held on the village green or in the churc yard. Open-air preaching has therefore becon as common as it was in the brave days of Whitfie and Wesley, or the still braver days when Latim preached his daring "sermons on the card" Paul's Cross. All things point to a revival of t ancient practice. Exponents of the Simple Li are sleeping on balconies and in hammocks or hayricks; the open-air school movement is spreadin and the "pale young curate" of former days wi as bronzed army chaplain, come back from the wa as intolerant as his camping-out or trench-dwelli comrades of the stuffiness of the ill-ventilat church-building; and he will be an enthusiast for t open-air pulpit.

* * * *

It is quite evident that the popular imaginati has been fired by the idea of a noble bridge acr the Thames—preferably at Charing Cross—celebrate either the career of Lord Kitchener a other national heroes, or the culminat victory of the Allies in the Great W Architects have naturally taken part in discussion, but not quite so freely as should have liked; the great bulk of the newspa writing on the subject having been contributed the "general public." That architects are hold a watching brief is evident, however, from th occasional and always effective intervention moments when the discussion seemed to be runn a little wild. As an example, Mr. James Mor F.R.I.B.A., A.R.S.A., contributes to the "Sp tator" of September 16 a most scholarly judicial review of the situation. The substance

s admirable letter is reproduced on a later page of r present issue, and we commend it to the careful ention of the profession.

* * * *

That Mr. Morris certainly writes with authority ıst be the excuse for some slight soupçon of a gmatic tone. There are certainly occasions when s every practical educationist knows) it is cessary to be dogmatic and definite, and Mr. orris is entitled to the license granted to or sumed by preachers and teachers. No doubt went very fully into the æsthetics of bridge-build- when, or probably long before, he was entrusted h the extremely delicate task, which he triumph- ly accomplished, of restoring the Auld Brig of r, of which every stone was worshipped by the lators of Burns. In assuming so tremendous a ponsibility he certainly stood up to be shot at, I he came out of the ordeal unscathed. Having velled much in Italy and France, to say nothing Germany and South Africa, he has had oppor- ities of studying many bridges, and that he did lways with the eye of the artist is inferential m the data of his career as set forth in "Who's o in Architecture," wherein it is recorded that he sed through the Glasgow School of Art, the val Academy Schools, and the Slade School; that s an ex-president of the excellent Scottish Society Art Workers, and that he has delivered and blished many lectures on art. Early in the sent year he was elected an Associate of the val Scottish Academy.

* * * *

omplaints are being made—not altogether inop- tunely, and not at all prematurely—of the make- t character of Labour Exchange buildings. Con- ed shops give but poor accommodation to the ld-be employers and the unemployed resorting to Labour Exchanges, and must play havoc with the k of the staffs, and probably, in too many in- ces, with their health also. It is quite explicable while this institution was a mere experiment, it ld have been folly to erect numbers of buildings h might turn out to be unsuitable or which might oon abandoned altogether if the Labour Exchange em had failed. It has not failed. With all its tcomings it has proved its right of being, and it ıld very soon be decently housed in buildings hich the planning can now be based on several s of experience of the requirements.

* * * *

ne hardly knows which quality to admire most 'The Londoner" of the "Evening News"— ther his easy fluency or his fine feeling. Both acteristics are equally seen in this passage from ent "Gossip": "With the name of Deniécourt re me, watching the map that seems to crackle musketry, I find myself pitying this house of iécourt that is lying like a ruinous tomb. It had bly sounding name: doubtless it was an old e. In my fancy, an old house in which genera- s of a family have been born and have died, s a sort of life of its own; becomes a mortal g, so that one may grieve at its death. The men pull down old houses have a butcherly job; I never see them at it without sadness." This is a ng that at times comes over most of us, though venture to give it expression. Less felicitously owledged, it might seem to justify a charge of by sentimentalism, although it may be a delicate bility, an imaginative sympathy that, in ng the whole world kin, does not exclude the s that cry out when a home is dismembered. passant, in "The Book of Pity and of Death," ts: "It was not the body of a cat we were bury- but ten years of our life." It is an emotional exaggeration, but it is grounded in truth and makes for a reverence that, extended to man's handiwork, invests a building, whether new or old, with a soul and spirit of which the embodiment should therefore be made the more beautiful.

* * * *

Last Saturday, due prominence was given by the daily Press to the report of the committee appointed by the Board of Trade to consider desirable means of meeting the needs of British firms after the War as regards financial facilities for trade, particularly with reference to the financing of oversea contracts. Its main recommendation is the establishment of a "British Trade Bank," with a capital of ten million pounds. A credit department, "for the issue of credits to parties at home and abroad," is the cardinal principle of the scheme, and is one in which, it seems to us, building interests are deeply involved, and from this point of view developments will be watched with the keenest interest. For the moment, further comment would be premature.

TWENTY MILLION POUNDS FOR HOUSING.

A DEPUTATION representing the Housing and Town-planning Congress was received last Wednesday by Mr. Walter Long, who took a very sympathetic view of the suggestion that the Government should set aside £20,000,000 for the provision of houses that could be let at reasonable rentals to the working classes. Mr. Long replied that he would not make any announcement as to any particular sum. He was not sure that twenty millions was even an index of what might be required. If, he said, the Government came to the aid of local authorities, it must be on liberal lines. There should be generous consideration to country districts, because it was vital to the future of the race that there should be provision for as many as possible in those districts in order to keep occupied on the land as large a population as possible. It was the duty of the nation to provide for the soldiers when they returned, and to see that, with the least possible delay, they were provided with decent home accommodation. At tnat moment, schemes amounting to nearly three millions were before him, but were held up by the war. There were other matters (relating to housing) waiting to be tackled at the first opportunity. A short time ago he and the Secretary for Scotland submitted a comprehensive and practical scheme to the Government, and he would lose neither time nor opportunity to press on his colleagues the urgency of the matter.

With regard to the demand for legislation promised by the Government in 1913 and 1914 (to amend the Finance Act of 1909) with the object of removing obstacles to the building of working-class houses, Mr. Long said he regarded the Government as pledged to carry a measure of reform, and he hoped that when it came it would be complete, because he was confident it was necessary.

It has been estimated that four hundred thousand cottages are needed immediately, a hundred and twenty thousand of them in the rural districts. It is therefore obvious that the sum mentioned by the deputation would be barely adequate to meet the present pressing need, and it is reassuring to find that Mr. Walter Long recognises this fact. His own attitude on the subject is entirely satisfactory; but if his good intentions are to materialise he must be supported in every possible way in his endeavours to bring the Government to a full realisation of their responsibilities with regard to this urgent and vital national need.

HERE AND THERE.

ONE day last week I was wandering through Hammersmith with a sculptor friend. Now Hammersmith is a place which offers examples of what is blatantly new and vulgar and what is picturesquely old and dirty, and it was just upon this a little discussion arose. We were, of course, of one opinion that the modern shop buildings of Hammersmith were staggering. There is no redeeming feature about them—buildings exhibiting a most deplorable lack of feeling for architectural composition and refinement in design; buildings, for the most part of brick and terra cotta, devoid of all attractive qualities of texture and colour, their fronts besmeared with garish lettering and tricked out with bits of flimsy ornament: dispiriting buildings indeed, making one feel the same keen sense of disappointment which many a social reformer has experienced when endeavouring to raise the social state of poor communities in large cities, for the good is in small proportion to the bad, and it needs a stout heart to hope ultimately that the good will work its way through as a leaven, gradually eliminating the bad, until the whole is in a sound and satisfactory condition.

* * * *

Hammersmith to-day is in no worse and in no better a condition than many another district of London and many a provincial town, but it happens to present some exceptional architectural contrasts within a stone's throw of one another. To realise this it is only necessary to turn out of the garish modern throughfares. You come at once into quiet streets and squares where the stucco builders of a hundred years ago worked very happily in their manner of house building, while some Earlier Georgian houses offer their characteristics of attractive warmth, decorous architectural design, and sound workmanship. But amongst what we will call the relics of the architectural past is many a slummy haven, swarming with children whose playground is the pavement and with mothers whose faces reflect the squalor of their surroundings. My sculptor friend, however, could see something in this slumminess which was quite unrecognisable by me. To begin with, it offered to him a spectacle of life which was free and unconventional in comparison with respectable middle-classdom, and there was to him a play of movement and colour which made a walk in one of these streets very much more attractive than a walk through, say, a West-End square or amidst the smug propriety of the typical suburban road. But while I quite readily appreciated his own point of view, I felt strongly that underlying the whole state of affairs was decay and degradation, and being prepared to withhold the claims of a "tidy" city in face of gibes, I could not get rid of the feeling that to be a sculptor walking through one of these picturesquely slummy streets and a sculptor living in one of the houses of those streets were two very different things; in which connection it is worth while to register a protest against an easy sort of opinion which seems to be common in artists' quarters, that attractiveness is impossible if there is anything in the nature of a tidying up and putting of people into "nice" houses, clean and proper, with their hair and their hedges cut, and an appearance of fresh paint and varnish about the whole place. To prove that this is really quite a fallacy, one need only go to see the houses on the Duchy of Cornwall Estate at Kennington. That is a district where just the same sort of squalor exists as at Hammersmith, but the new houses, admirably grouped, and presenting a great variety of treatment, while conforming to one general character of style, have absolutely transformed what was slum property into decent streets and squares, and a particular thing to note about them too is, that the tenants feel that they have to live up to the clean niceness of their new houses, and in this way the whole tone of the district is being raised. The real mischief is done when housing schemes get into the hands of architects who have neither the taste nor the ability to design good houses but even then I would prefer the new to the old if the one meant a step forward in decent housing and the old was only a sinking back into squalor; for Life is something more than Architecture, in spite of what my sculptor friend thinks.

* * * *

But although the sculptor and I could not agree on the housing question, I was very ready to listen to him on the subject of sculpture—not sculpture in general, but the practical means of fashioning form out of the marble. We went into a yard where a huge block, costing about £250, was being "pointed" by a workman, who used his tools very deftly. The sculptor's full-size plaster model stood near by, and after taking a series of selected points on head, body, and feet—thus getting a sort of triangulation—the brass rod with its adjustable arms that constitutes the "pointing" tool was transferred from one to the other, and so the workman was able to cut away the marble in just the right place and to just the right depth. "What would happen," I said, "if in error he cut some inches too deep—where the nose of the figure was to come, for instance?" "That would depend on several things," said my sculptor friend, "the first and foremost being the available depth of material left, for if the block were of a good size it might be possible to sink the whole of the front further back into the marble. If however, this could not be done, the work might be regarded as ruined." That set one thinking how much the sculptor was in the hands of his workman to illustrate which point I may give the following facts: A certain carver had in his studio no fewer than seven large blocks of marble, all being roughed out and got ready for the sculptor's own chisel. The carver had as an assistant an Italian "pointer." Some dispute arose between them, and one night the Italian, as a pure piece of vendetta, deliberately made some excessively deep cuts in each of the marble blocks. He then disappeared, and was never afterwards heard of. All the blocks, costing several thousands of pounds, were utterly spoiled, and as the carver was only an ordinary workman the burden of the loss fell entirely on the sculptor.

* * * *

But apart from such an exceptional piece of luck as this, there is always a very appreciable uncertainty about what is going to happen when the rough marble block is being cut down into shape. No guarantee as to the absolute purity of the block can be given, and so the sculptor keeps an anxious eye on the work as it proceeds. The chief risk is a flaw or streak in the marble, or a dark patch which may be disastrous in effect. There is a story of a sculptor who, carving a marble figure of Christ on the Cross, suddenly cut into a bright red streak exactly where the wound in the side was; the incident being regarded as miraculous. I have heard too of a marble head suddenly sliding clean off at the neck when the sculptor's chisel happened to touch on a line of cleavage due to imperfect crystallisation while the marble was changing from its original plastic state, the explanation of this latter being that there was some halt in the process of formation, and a condition of moisture intervening, the marble became deposited in two layers instead of being homogeneous. So it will be seen that the sculptor's lot may be, on occasion, a very unhappy one.

UBIQUE.

PARIS BRIDGES.

THE proposal to build a great memorial bridge over the Thames at Charing Cross has lately been the subject of keen discussion, and it is portune therefore to turn to Paris in order to nsider some of the fine bridges that have been ected across the Seine, several of them in memory military triumphs or great achievements in the tional history.

It is curious how, in connection with Paris, there a tendency to envelop every place and feature with omantic interest, at times redolent of the studied iteliness of an old aristocracy, at times stridently ve with the new enthusiasm of glory under the eat emperor, at times tragically reminiscent of the d fury that transformed a jocund populace into mob of demons. And so, in referring to the dges of Paris, we cannot help recalling the surge humanity which has passed across them. In ch a mood we may picture the huddled timber nstructions that spanned the river in bygone days, d the motley of life that made Paris a centre of raction even in the Middle Ages. Thus musing, take special note of the many bridges that con- ct the two banks with the island whereon are tre Dame, the Sainte Chapelle, and the group of ldings now gathered into the Palais de Justice— trip of ground crowded with dramatic memories. re, in a dominant position, is the Pont Neuf, oldest Paris bridges, over whose arches passed not only pomp and circumstance of Church and State, but o those sad processions from the Conciergerie the guillotine. Close by, the Pont au Change inds us, by its name, of the money-changers and dsmiths whose houses once flanked it. And we y continue associating some interesting feature old and new life with almost every bridge, not itting the Pont des Arts, and the jolly figures of Taffy and the Laird arm-in-arm with Little Billee on one of their excursions westwards from the Place St. Anatole des Arts.

London, too, might offer opportunity for many such recollections, but the element of romance is lacking, and it would be a hard task to associate anything picturesque or whimsical with such structures as the Victorian triviality at Chelsea, the pseudo-Gothic of Westminster, the gaunt ugliness of Charing Cross and Cannon Street, or that toy creation the Tower Bridge. Nevertheless, London possesses in Waterloo Bridge a structure which Paris cannot equal, and it may be hoped that in years to come this great example will have companions that emulate its qualities, in place of the nondescript collection that now span the Thames as it passes through the metropolis.

In comparing the bridges of London and Paris it is well to bear in mind that, for the most part, the width of the Seine is not half that of the Thames, and the problem of bridging it is far easier of solution. Nevertheless, one cannot fail to recognise how admirable are the majority of the Paris bridges.

Taking, as limits, the points where the encircling railway crosses the river, just within the lines of the fortifications, we find there are no fewer than twenty-nine bridges, in the following order, from west to east:—Auteuil, Mirabeau, Grenelle, Passy, Jéna, Alma, Invalides, Alexander III., Concorde, Solférino, Royal, Carrousel, Arts, Neuf, Change, St. Michel, Notre Dame, Petit Pont, Arcole, Double, Louis Philippe, Archevêche, Marie, La Tournelle, Sully, Austerlitz, Bercy, Tolbiac, and National.

The Pont d'Auteuil (really two bridges superposed, the upper one carrying the railway), the Pont Mirabeau, and the Pont de Grenelle we may pass by without comment, as none of them present any



PONT DE L'ALMA, PARIS.

features of special attraction. The Viaduct de Passy is more interesting: it carries the Métropolitain railway across the river, and is a twin structure decorated with colossal statues and reliefs by Michel. But it is only when we arrive at the Pont de Jéna that our interest is actively aroused. This bridge, however, is one of the least effective of the series. It was begun in 1806—the year of the victory over the Prussians which its name perpetuates—and was built by Napoleon as part of a plan for developing the faubourgs on the south and west sides of the city. It still remains an effective link between the Champ de Mars and the Trocadéro; but, as the well-known story reminds us, it was all but destroyed by Blücher in 1815 on account of its association; only at the eleventh hour, when the mine was in position, did the choleric old field-marshal countermand his order. At the present time the appearance of the bridge is sadly marred by some lattice ironwork projecting beyond the parapets—a relic of the 1878 Exhibition, when additional footpath accommodation was needed—but the groups on pedestals at either end, each comprising a horse with an attendant—

of the upper part having then lately been renewed the author expressed the hope that the patient's strength had thus been completely established. Its present fresh appearance, however, testifies to a later rebuilding in a most substantial manner.

Following the sequence, we come upon the Pont Alexandre III., one of the newest, and certainly, by reason of its sculptural adornments, the most important of all the Paris bridges. Its pylons, with winged horses flashing with gold, are admirably placed, and the bridge itself—a flat steel arch of 350 ft. span—is no less effective. Engineer, architect, and sculptor have here combined with the happiest results. Résal and Alby were responsible for the engineering portion of the scheme, and Cassien-Bernard and Cousin for the architectural design. The sculpture is by several hands. Frémiet executed the Pegasi and figures of Fame that crown the pylons on the north bank, Granet and Steinheil those on the south; the figures at the bases of the pylons are by Lenoir and Michel (north) and by Coutan and Marqueste (south); while the beautiful groups of lions led by children are respectively by



PONT NEUF, PARIS.

respectively a Greek, an Arab, a Gaul, and a Roman —to some extent redeem its appearance.

Figures, too, are the chief interest in the Pont de l'Alma, which dates from the Second Empire. Here, over the cut-waters, are sentinel Crimean soldiers—a grenadier and a soldier of the line on one side, and an artilleryman and a Zouave on the other. These attract the attention of every passer-by, but the bridge has also a special technical interest as an admirable example of masonry construction.

Figures emblematic of war, and trophies, decorate the Pont des Invalides, the next in order. The younger Charles Dickens, compiling his "Dictionary of Paris" in the 'eighties, refers to the appropriate name of this bridge, "for it has wanted repairs and further strengthening perhaps oftener than any other modern bridge in Paris." The whole

Gardet (north side) and Dalou (south). Over the centre of the bridge are the arms of Paris on one side and those of Petrograd on the other. The structure, in fact, bristles with sculpture and ornament. The bridge took four years to complete—from 1896 to 1900. It commemorates, of course, the Franco-Russian alliance.

The next bridge in order is the Pont de la Concorde. This is one of Perronet's many works. It has five arches with Doric half-columns between them, and is a satisfying if not very stirring design. It dates from the end of the eighteenth century (1786-1791) and the upper part is built with stone from the Bastille. Napoleon's idea was to decorate it with a series of large statues of famous statesmen and marshals of France, and these actually were in position for twenty years. Their appearance, how

ver, was regarded from the first as rather ridiculous, nd in 1837 they were removed to the Court of Honour t Versailles, where, in company with others, they ow occupy more appropriate positions. Labrouste lesigned the lamp standards for this bridge in 1840. t is worth while to note how the Pont de la Concorde as changed its name at successive periods. When rojected it was known as the Pont de la Place .ouis XV.; in 1786 as the Pont Louis XVI.; in 1791 s the Pont de la Révolution; in 1795 (after the 'error) as the Pont de la Concorde; as the Pont .ouis XVI. again at the Restoration; returning, nally, in 1830, after these many changes, to the ame it now bears.

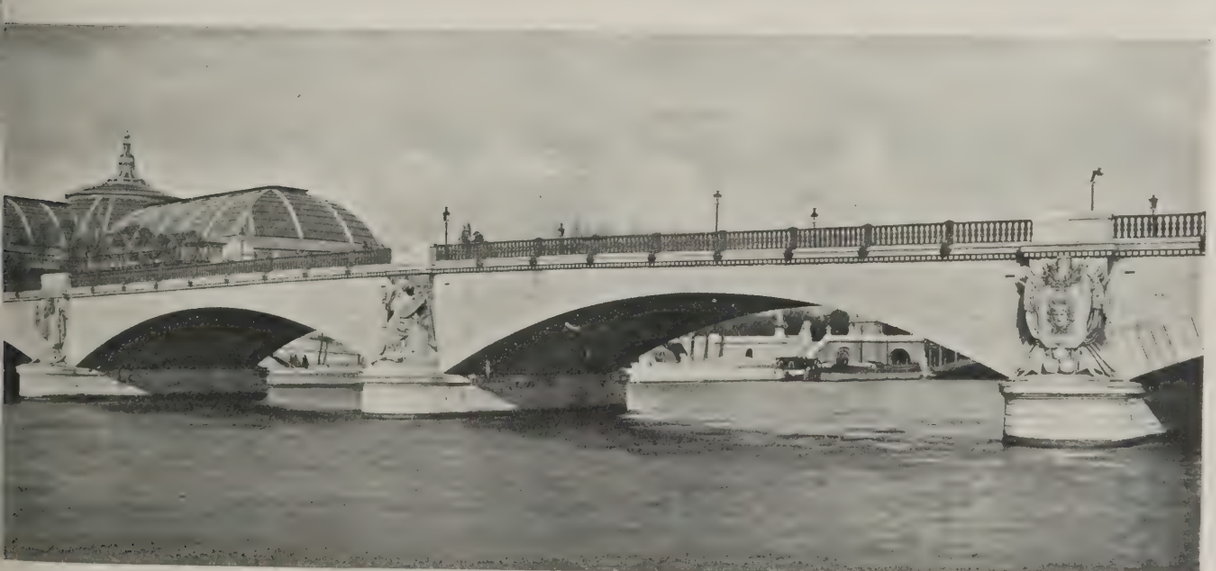
Other Paris bridges have also changed their names t different times, like the Pont Royal (next but one n the series), which was formerly called the Pont es Tuileries. This is another old bridge, and seems o have been very little altered, if at all. It was begun n 1685 from designs by J. H. Mansart and com-leted two years later under the direction of Francois omain. It is in line with the Pavillon de Flore of ie Louvre and makes a very effective picture as :en from the south bank. This was the second :one bridge built in Paris, and formerly had houses pon it. These were pulled down in 1786, at the ime time as the houses on the Pont Neuf. A short istance to the east is the Pont du Carrousel, which ills for no remark. Then comes the Pont des Arts, n line with the centre of the Louvre and the Institut e France. It dates from the Consulate, having been pened in 1803. By reason of its position it is a ery useful bridge; but, with its bald iron spans on ctangular piers, has a rather mean appearance. Of uite different character is its neighbour, the Pont euf. Here is a veritable romance in stone, albeit ere have been inevitable restorations. The bridge as commenced in 1577 from designs by Du Cerceau, ierre Lescot, and Guillaume Marchand, and their riginal scheme has been retained with remarkable delity in the remodellings of 1852 and 1886. It osses the western extremity of the Ile de la Cité, ere being a series of seven arches on the north side nd about half as many on the narrower stream to e south of the island. Surely if spirits ever haunted bridge it might well be this one. Was there not e popular saying, "Le Pont Neuf c'est Paris," to itomise the merry-making, mountebanking, news-nding, quack-doctoring, and general revelry that und welcome reception between its parapets uring the seventeenth and eighteenth centuries?



VIADUCT D'AUSTERLITZ, PARIS.

And what rumbling of tumbrils and fighting and fierce carousing must have taken place on this passage over the river within the next hundred years! Quite other history, too, is recalled by the fact that it was here the first hydraulic pump was erected—"La Samaritaine," a name preserved in that adjoining medley of floating baths which, with its tin palm-tree, is one of the disfigurements of Paris.

Many other interesting connections are centred in the crowd of bridges, big and little, that stretch across to this little island and the adjoining Ile St. Louis. The structures are both old (like the Pont Marie) and new (like the Pont Sully), but space forbids our entering upon their history or features. Leaving them we come on the Viaduct d'Austerlitz, a bow-spring bridge of iron which carries the Métro-



PONT DES INVALIDES, PARIS.

politan railway across the river. It is a good example of modern French engineering and has well-designed enrichments. Beyond are the remaining three bridges of the series, the Pont de Bercy (1864), the Pont de Tolbiac (1883), and the Pont National (1852), none of which merit any detailed notice on the present occasion. We both start and finish the series of Paris bridges with indifferent examples, but there are many between these limits which display alike the skill of the engineer and the spirit of the artist.

THE PLATES.

A Greek Chaplet.

THIS illustration of a chaplet of olive leaves from the frieze of the monument of Thrasyllus at Athens, from a cast in the Soane Museum, is of particular interest and service at the present time, when the subject of monuments is under consideration. A wreath is not the easy thing to design that it appears to be, and it is well worth while therefore to study good examples, such as this one, the only criticism we have to make in regard to which is that the flat treatment of the ends of the stems does not produce so satisfactory an effect as would be the case if the circular form were completed at the top.

Dining-Room, Kensington Palace Gardens.

This is a very pleasant room, amply embellished with architectural ornament and plaster panels, but in no degree overwrought. The chimneypiece in the recess on one side is particularly effective. Mr. E. J. Ray, F.R.I.B.A., was the architect.

Main Doorway, Manchester Art Gallery.

Sir Charles Barry was always very successful in his treatment of doorways, giving to them a fine sense of scale and dignity. The main entrance to the Manchester Art Gallery is a typical example of his manner. The treatment of the main entrance to the architects' Reform Club is very similar.

Garden Court and Loggia, Walhampton.

Walhampton, near Lymington, the residence of Lord and Lady St. Cyres, has lately been considerably enlarged from the plans of Mr. Edmund Fisher, F.R.I.B.A., by Mr. E. Prentice Mawson. The garden court is situated at the east end of the house and forms an extension to the music-room included in the additions to the residence. The garden part of the court is still in an unfinished state, but after the War the urns and sculpture which form part of the design will be added. New entrance gates, carriage court, and connecting avenues have already been carried out in the grounds. On the south or garden side of the house a new terrace has been built and laid out and many improvements have been effected here and in other directions.

Painting and Decorating Room and Plumbing and Gasfitting Workshop, Cardiff Technical Institute.

The painting and decorating room does not call for much description. As will be seen, there are two plain tables with another between having a sloped and slatted top; against one wall is a long mixing bench with cupboard over, and to another wall four model doors are attached, where practical demonstration can be given. The plumbing and gasfitting workshop is detached from the main buildings in order that students in the other classrooms shall not be disturbed by noise. The workshop is well ventilated, lighted by electricity, and well supplied with gas and water. The floor is of granolithic cement. High-power gas furnaces are provided for the solder pots, and an ordinary coal fire for general use. The work-benches are so arranged as to provide accommodation for forty students, the centre benches being reserved for sheet lead working and the side benches for joint wiping and pipe bending. Batten shelves are provided on the end wall for storing long lengths of lead pipe and coils of compo pipe, coils of lead pipe being stored against the wall under the pipe racks and the sheet lead against the wall. At D a cupboard is to be provided for the purpose of storing diagrams, and a tool cupboard sub-divided into bins for the keeping of the various tools. Shelves are fixed around the walls for the purpose of receiving the students' work, and on the walls also are fixed various examples of sheet lead work, pipe bending, and joint wiping. Generally speaking, the construction and equipment offer a fair example of an up-to-date technical school workshop.



GARDEN COURT AND LOGGIA, WALHAMPTON, NEAR LYMINGTON. E. PRENTICE MAWSON, ARCHITECT.



DETAILS OF CRAFTSMANSHIP (SERIES II.). XV.—CAST OF A CHAPLET FROM THE FRIEZE OF THE MONUMENT OF THRASYLLUS AT ATHENS.

(In the Soane Museum.)

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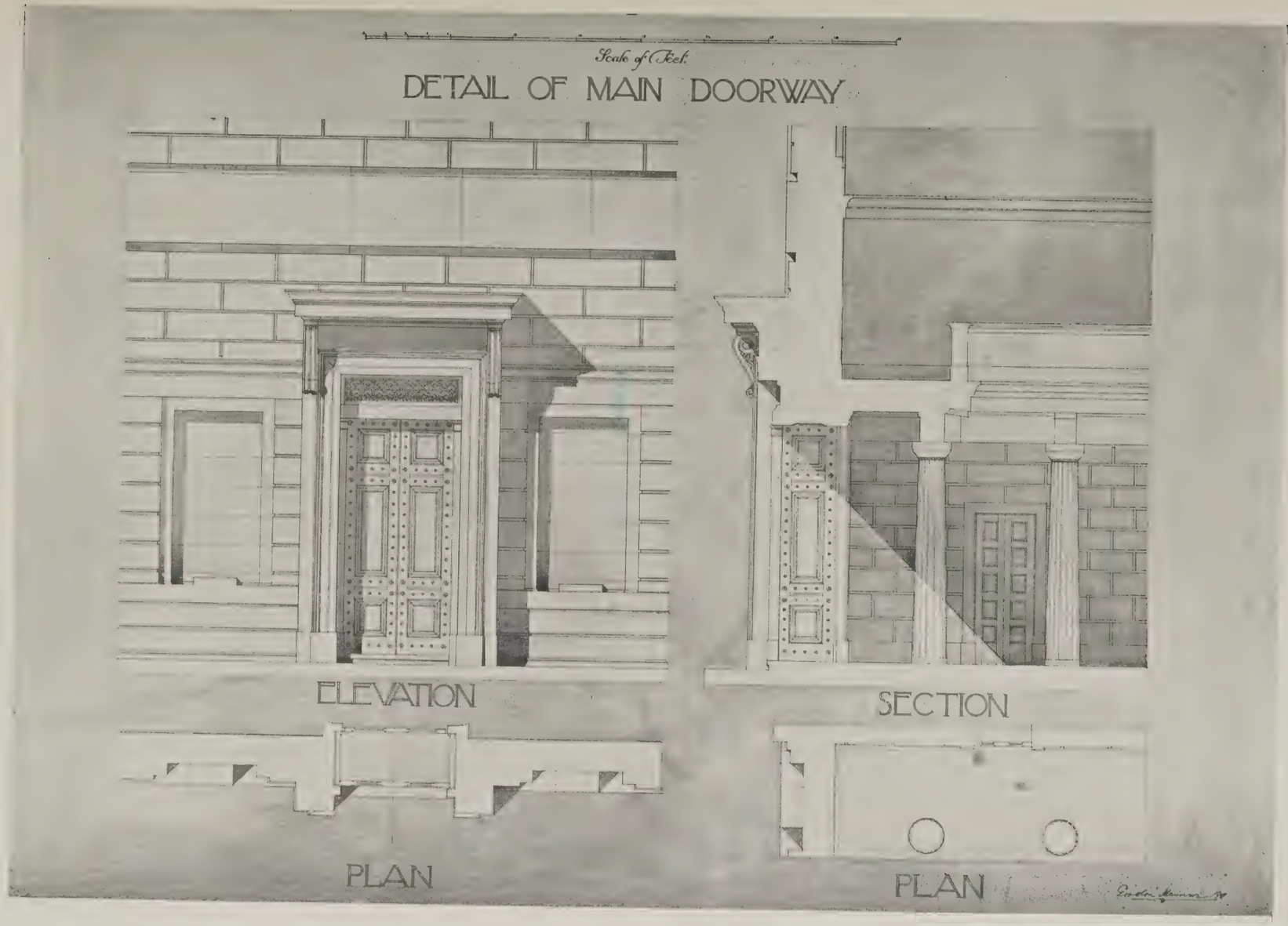
Photo: Thomas Lewis, Ltd.

MODERN DOMESTIC ARCHITECTURE (SERIES II. XLII.—DINING-ROOM, KENSINGTON PALACE GARDENS, LONDON, W.

E. J. MAY, F.R.I.B.A., ARCHITECT.

ement to "The Architects' and Builders' Journal," Wednesday, September 27, 1916.

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STUDENTS' DRAWINGS (SERIES II.). XXXIII.—THE ART GALLERY, MANCHESTER: MAIN ENTRANCE. SIR CHARLES BARRY, ARCHITECT.

MEASURED AND DRAWN BY GORDON HEMM.

UNIVERSITY OF ILLINOIS
OF THE



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XLI.—GARDEN COURT, WALHAMPTON, NEAR LYMINGTON, DEVON.

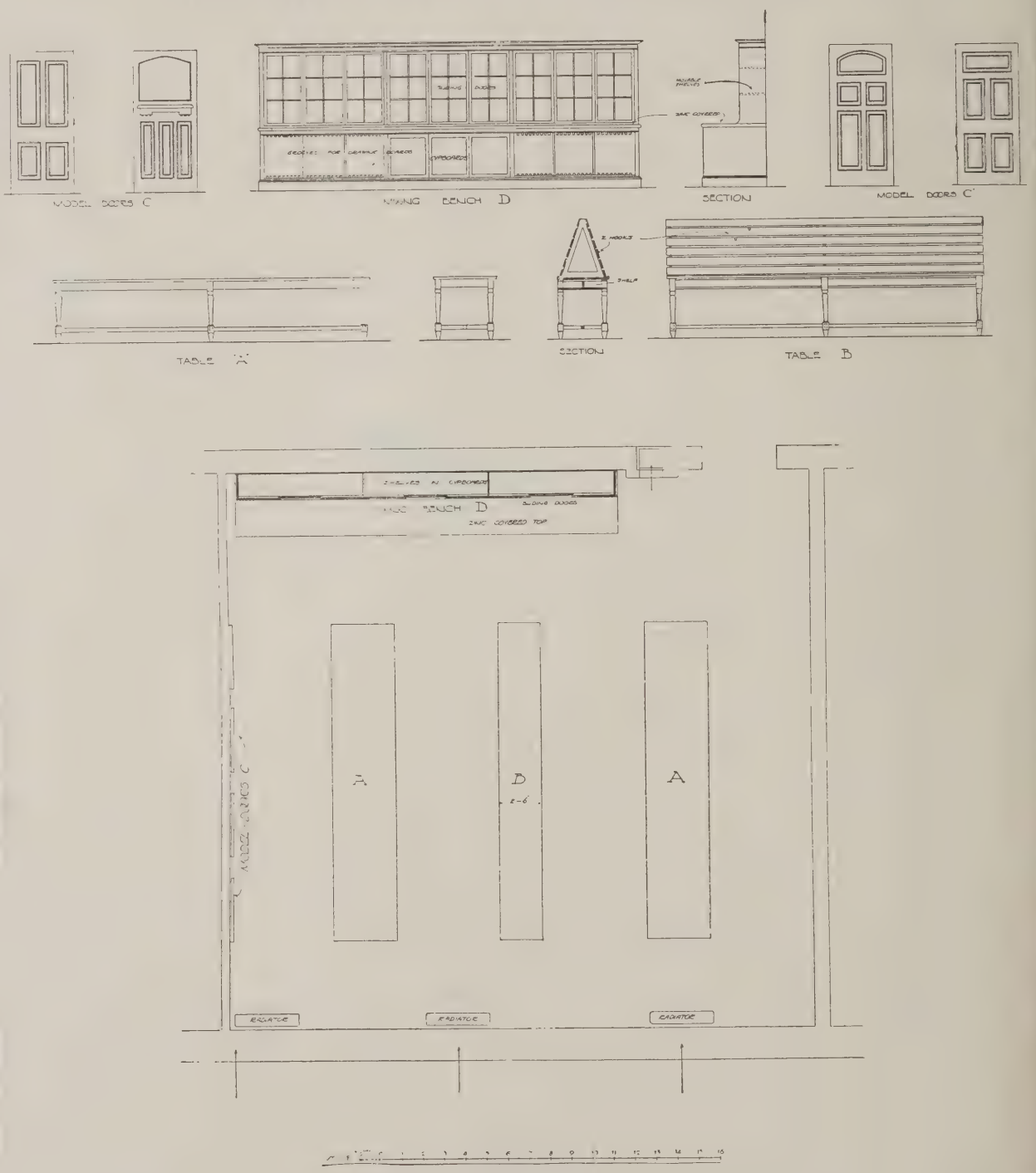
E. PRENTICE MAWSON, ARCHITECT.

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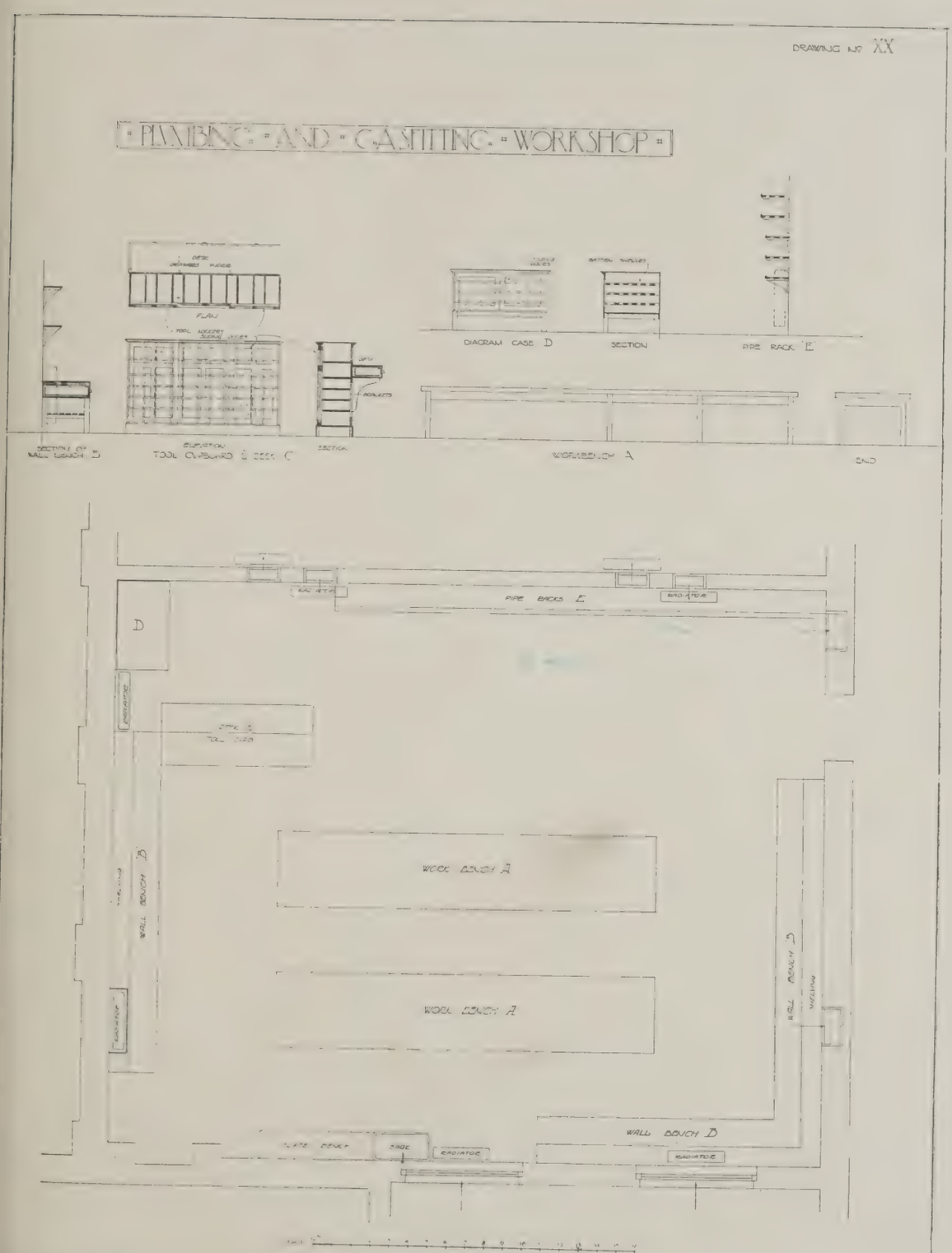
DRAWING Nº XVIII

PAINTING AND DECORATING ROOM



SCIENCE AND TECHNICAL BUILDINGS. XIV.—PAINTING AND DECORATING

IVOR JONES AND



PLUMBING AND GASFITTING WORKSHOP, CARDIFF TECHNICAL INSTITUTE.

AS, ARCHITECTS.

COMPETITION FOR THE REPLANNING OF DUBLIN.

REPORT ON FIRST-PREMIATED DESIGN.

IN our issue for August 30 we announced the much-belated awards in the competition for the replanning of Dublin promoted at the instance of the Marquis of Aberdeen when Lord Lieutenant of Ireland. We are now able to publish, from the columns of the "Christian Science Monitor," of Boston, Mass., the main portion of the report accompanying the design awarded the first prize (£500), the authors of which are Professor Patrick Abercrombie, of the Department of Civic Design in the University of Liverpool, and Messrs. Sydney A. and Arthur J. Kelly, surveyors, of Liverpool. (It may perhaps be wondered why the report should come thus from an American source. The explanation is that there were three assessors, a Scotsman (Professor Patrick Geddes, of Edinburgh), an Irishman (Mr. C. J. McCarthy, City Architect of Dublin), and an American (Dr. John Nolen, of Cambridge, Mass.), and the drawings, after being considered by the assessors in this country, were sent to the United States for inspection by Dr. Nolen. They have just been exhibited in Boston, and are now about to be sent back to Dublin. The 'Christian Science Monitor" is published in Boston, and that is how we come to take from their columns the report on the first-premiated design.)

In the report the architect says: 'Dublin to-day presents a similar spectacle to Paris prior to the operations of Napoleon III. and Haussmann; it is a city of magnificent possibilities containing features of the first order, but loosely correlated and often marred by the juxtaposition of incongruities and squalor. As at Paris, central areas which should be of first-rate commercial importance are occupied by slums, and streets of noble architectural dignity are tenement-ridden. But, more fortunate than Paris, Dublin is to be remodelled during a period of greater town-planning enlightenment, when architectural effect and traffic conveniences are not alone regarded as the chief essentials. Hygienic housing and adequate park provision, those two aspects neglected by Haussmann, are now given their proper place, and these four elements will compose a city that is worthy to be the capital of a modern country.

New City Centre.

"The two salient features, other than immediate requirements, of the town plan as proposed, are a new city centre for the street net and an extensive scheme for reclamation of flats from Dublin Bay. With reference to the former, the Nelson pillar in Sackville Street is in the plan no longer the hub of the tram system; it indeed falls outside the utilitarian traffic web and drops into its right place as a monumental avenue de l'Opéra. The new centre on the north bank near the Four Courts and on the south near Christchurch determines itself naturally as the objective, at present thwarted, of the greater number of radial roads. The centre of the road system is also the centre of the railway system. The general effect of this rearrangement and recussing of communications will be to restore to the north bank an equal importance with the south. One might recommend that, as at Paris, the south bank contains the legislature and seats of learning, the Dublin that is capital of Ireland, while the north bank is to develop as the prosperous business and commercial town; it has also the new Roman Catholic cathedral and the group of cultural buildings at the top of Sackville Street to leaven its pursuit of moneymaking. . . .

Treatment of the Liffey.

"The treatment of the Liffey and its quays is one that requires a clear understanding of the commercial situation before attempting to deal with it; the conclusion arrived at is that above the Customs House it is not primarily a commercial stream. The general scheme of water carriage for Dublin consists of a navigable river for ocean-going vessels as far as the Customs House with a north and south canal extending from this section to carry on the barge traffic inland, each being furnished with a subsidiary basin towards the western end of the town for the distributing of water-borne goods, for consumption in the town itself; these canal basins should serve the two-fold object of distributing coal, which is brought in from the sea, and peat, which comes from inland. No system could be devised better than this already in existence, which only needs slight improvement at the distribution basins and docks.

"This arrangement being recognised, it is useless and undesirable to make schemes for the better commercialisation, by means of lower level quays, of the banks of the Liffey above the Customs House. They should be treated frankly decoratively.

"A thorough study has been made of the existing radial roads, which it may be remarked are far above the average of other towns of similar size and whose chief defect is the lack of an objective at the centre; every effort has been made to concentrate their termini on a central place in order that a simple tram and traffic system may result. . . .

"It will be noted that Sackville Street is no longer the focus of the tram system, which has been transferred to a more suitable position; a single service alone is now taken down it; at the same time it is fully supplied by no less than five routes, which traverse it. Capel Street is entirely freed of trams, as its narrowness and the fact that it forms the connecting link between City Hall and cathedral renders it desirable to be freed from this type of traffic."

A "Power Citadel."

The report makes the following recommendation concerning a power citadel: "That the corporation activities already located at Pigeon House fort be enormously augmented. The existing power station is transformed into a huge power citadel where the raw material of energy which enters the harbour is converted into motive force for the industrial activities of the whole community. This is the only reasonable and modern way of dealing with the power problem. Why pay for carting the coal inland and distributing it to every factory when one single operation can convert it near where it enters the city? Again, though many chimneys create a dismal effect, there is a grandeur about a single gigantic shaft with its plume of smoke curling from the brazier-shaped summit. The building adumbrated in the study is confessedly of huge size; the tower 600 ft. high and accommodation provided for ranges of workshops and machinery plant. Architecturally its effect at the entrance of the harbour and as the centre point of the reclaimed Dublin Bay would be magnificent."

Factory Sites.

The plans show several new schemes for factory sites. "The two principal ones, which would provide for an enormous industrial development of the most varied character, are on the reclaimed land north of the docks and on either side of the Grand Canal to the south-west at Crumlin, the latter an area most suitable to the textile trades. On the former would naturally be located engineering works, shipbuilding, timber yards, factories for the heavy trades, and warehouses. As it is contemplated that electric power from a central power citadel will be the motive force, the factory areas will be free from smoke and consequently need in no way pollute the air in their vicinity. The connection between the Crumlin area and the docks is by means of the Grand Canal and the new 120-ft. road skirting it, which would have a specially designed track for motor lorries. It is also admirably provided with connection to the whole railway system."

Housing Schemes.

Taking up the question of housing, the report says: "As a first step it is necessary to divide Dublin into intra-urban and extra-urban areas, as the recently incorporated, thinly populated wards at Clontarf, Drumcondra, etc., produce misleading results in general city calculations. Nor is the division into the old city and new entirely satisfactory. Rather it has been decided to ignore boundaries which are arbitrary and have no geographical or sociological values, and mark off a real and natural area of intra-urban Dublin, which may be described as one in which full town conditions prevail.

"The intra-urban Dublin has been taken to be enclosed within an imaginary boundary, which is determined on the south mainly by the canal, including, however, Begarsbush Barracks and Irishtown on the east, and on the west taking the line of the circular road as far as Congyham Road and Phœnix Park. On the north a clear boundary is not so apparent as that of the canal (the different nature of the two banks of which clearly indicate that it has acted like a town wall). The line has been taken just outside the north circular road on the west and then following the north wall branch and Cloncliffe Road and including the debouchment of the Tolka River. The area thus enclosed, which includes the People's Garden and Wellington monument grounds of Phœnix Park, is somewhat larger than that enclosed by the old city boundary and contains about 4,220 acres; the wards of the present city, which are counted as extra-urban, are Drumcondra, Glasnevin, Clontarf, and Kilmainham; if the population of these is subtracted from that of Dublin (according to census 1911, 304,802) it will leave approximately 275,000 as the present population of urban Dublin on 4,220 acres."

It is stated that the normal urban acres available for housing purposes are 2,870, and that these are occupied by 275,000 persons, there being a present density of 95.8 persons per normal urban acre. "Therefore to obtain the proposed density of 75," continues the report, "a surplus of

59,570 inhabitants must be extracted from their present dwellings. This figure closely approximates to that estimated by the departmental inquiry, which recommended that 14,000 new houses are wanted, or at the rate of 4.6 per household, 64,000 persons require rehousing. . . .

"The three new areas of Crumlin, Cabra, and Drumcondra have been selected for the rehousing of about 60,000 persons, in conjunction with transit schemes giving direct tramway connection with the central area. The reason for the selection of the two larger areas is obvious from the town plan; the great part of these rehoused people will have their occupations and interests, to begin with at any rate, near the centre of the town, and it is therefore imperative that rapid and cheap tramway facilities with centre be provided as they can be by Crumlin and Cabra Avenues. These are of sufficient width to permit of a separate track for high speed electric cars to travel quickly into the central area, where the speed would be reduced to the ordinary limit. The journey from either of the three localities would not take more than ten or twelve minutes, and by amplifying the existing tramway system the workman would be practically taken from the workshop to his own house door. Cheap workmen's tickets would be issued available at certain hours of the day. . . .

"It is proposed to lay out these three areas on town-planning lines, either by the adoption of a town planning Act similar to the Act of 1909 or by means of a local housing and town planning Act promoted by the city authorities; the latter scheme is advisable as it would deal with the financial aspect of the housing and at the same time incorporate town-planning powers, as independent housing, however good it may be in itself, cannot be said to be well carried out unless it is combined with town planning; it can only be likened to putting a valuable jewel into an ill-designed setting.

"The Town Planning Act of 1909 has already wrought great changes in the development of land in England, and it is of the utmost importance that some legislation on the same lines should be enacted for Dublin, as many amenities may be secured."

The financial statement for the housing scheme on the extra urban land is as follows:

Number of people to be rehoused		59,750
Number of persons per acre		60
Average number of houses per normal acre...		14.5
Crumlin	430 acres	
Cabra	400 acres	
Drumcondra	166 acres	
	996 acres	
996 acres at £300 per acre		£298,800
Cost of development 996 acres at £500 per acre		498,400
Cost of erection 14,000 houses (to house 60,000 people) at £200 per house		2,800,000
		£3,596,800

The financial scheme for the whole rehousing project follows:

	Cost.	No. of persons housed.
Crumlin, Cabra and Drumcondra Areas	£3,596,800	60,000
Townsend Street area—		
Cost of land and clearing site (28 acres at £1,000 per acre)	28,000	
Cost of erecting 444 tenement dwellings at £200 per house	88,800	
Cost of erecting 166 self-contained houses at £250 per house	41,500	
	*£158,300	3,698
The Royal Barracks site—		
10 acres of land at £1,000 per acre	10,000	
Cost of erection of 250 houses at £300 per house	75,000	
	£85,000	1,000
	£3,840,100	64,698

* This sum approximates to about an average cost of £40 per head, which may be considered a satisfactory figure.

Park Areas.

The report concludes: "It is proposed about to double the existing park area: this may not sound very much, but the vast extent of Phœnix Park must be taken into consideration; Dublin by this means alone is among the best park-provided towns. It is estimated that the present acreage of parks in Greater Dublin is about 1,712; the proposed addition, including area of parkways, is about 1,600, making a total of 3,312 exclusive of nature reservations. The population of Dublin being about 300,000, this gives an average of one acre per 100 persons, a very high proportion and one which is only possible through the existing possession of Phœnix Park and the possible addition of North Bull. . . .

"Of a town plan of such complexity it is impossible to forecast the financial prospect. The experience of Paris shows that Haussmann's estimates were generally exceeded by at least 50 per cent. At the time he was bitterly blamed, but his theory of 'depenses productives' has been subsequently fully justified. If Dublin were to embark upon a town plan of this magnitude it would find that it would turn out a commercial success as great as that of Paris; and it would far exceed the success of Paris in its provision for the real health and happiness of the people."

A RUSSO-BRITISH CHAMBER OF COMMERCE.

At a large meeting of British and Russian firms, convened by the Russian Consul-General in London last week, it was resolved to form a Russo-British Chamber of Commerce in London, with the following objects:—

To promote, study, extend, and develop the home and foreign trade, commerce, and manufactures of the British and Russian Empires and their mutual commercial relations, to collect, publish, and disseminate statistics relating to home and foreign trade and commerce and manufactures of the British and Russian Empires; to consider questions connected therewith, to make representations to Governments, legislative bodies, Chambers of Commerce, and other authorities thereon, and otherwise in such a manner as may be deemed expedient and conducive to the attainment of the above objects.

To promote, study, extend and advance the special interests of Russian subjects carrying on any industry or business in or with the British Empire, and also the special interests of British subjects carrying on any industry or business in or with the Russian Empire.

To promote or oppose legislative or other measures connected with such trade, commerce and manufactures, and to study and intervene in questions relating to international enactments affecting the same, and to establish any journal containing reports of the proceedings of the Chamber, reports or statistics or information of any description of interest to persons carrying on trade between the two Empires.

To issue publications containing statistics and information on British and Russian trade. To act as arbitrators in settling disputes arising out of commercial transactions between British and Russian subjects.

The memorandum and articles of association have been submitted for registration, and the Chamber will be formed immediately upon the completion of this formality.

A MONUMENTAL AND IMPERIAL BRIDGE.

Mr. James A. Morris, F.R.I.B.A., A.R.S.A., makes, in a letter to the "Spectator" of September 16, the following important contribution to the discussion on a proposed monumental and imperial bridge over the Thames at Charing Cross:—

In three essentially excellent paragraphs in the "News of the Week" of September 2 you ["Spectator"] speak of the Charing Cross Bridge. You anticipate criticism, and, accepting the courteous opening, may I venture to suggest that you perhaps err in at least two points, one of commission, the other of omission? That the bridge should be monumental and Imperial in being all except the Little Englander will agree; also, and here you touch the true note, in insisting that the statuary embellishment of the bridge should not be by portrait or individual figures, but by types; embodying the various branches of service and war-work, of the very soul and spirit of the people and Empire. In all past great periods of sustained national sacrifice and exaltation, great art co-ordinated and formulated, naturally and in the vernacular, the national culture and achievement. Consequently the architecture of any great spiritual age as expressed by its monuments, if it be true to itself, must be neither pretentiously archæological nor pedantically archaic; both affectations being alike retrograde and decadent, and neither vibrating with the spirit of an imaginative age.

Art must ever be and express the living spirit of a living age. Whether the national spirit is to-day best and most directly expressed by architectural or engineering achievement may be an arguable point; but in the times of the giants of art these two were as one. It matters little by what name we call a thing; what is essential is that it be itself great. May I suggest that your first, may I say error of commission, is embodied in the pronouncement that "where the bridge leaves the shore should stand triumphal arches"? On very many mediæval bridges there are, or were, fortified gateways with arches. These, for purposes of defence, were placed "where the bridge leaves the shore"; and, because these mediæval bridges were very narrow, the height and mass of the gateway did not greatly detract from the bridge's apparent length. The new Charing Cross Bridge will, however, and of necessity, be a very wide and flat bridge; consequently the erection of great monumental arches at either end will detract calamitously from its apparent length, and moreover dominate unduly the whole monument. The true place for such triumphal arches is not on the actual bridge itself, but following the axial line of the bridge, on the outer side of its great approach courts, which might be something suggesting at least in plan, if in modified form, the Piazza di S. Pietro of Rome. One assumes that there will be an open space at either approach, and at the entrance to these, and on the axial line of the bridge, is surely to be found the site for the proposed triumphal arches. These great courts, each dedicated respectively to the Navy and Army, would also be, for many obvious as well as æsthetic reasons, the place for the typical statuary and inscribed panels, each with its appropriate architectural background, rather than, as you suggest, on the parapet of the bridge itself; where, showing directly against the sky, the statuary could neither be fittingly

en, nor yet readily have a suitable atuary background. Such a court at ther end of the bridge, with its great chway axially not only with the bridge, it also if possible with its main artery of affic, would also permit of the statuary llowing the architectural line of the urt, and so becoming an integral and ting part of its general design. Moreer, each court would then be a visible d real part and continuation of the idge, and so not only add to its roadway ngth, but also to its architectural imrtance and monumental dignity. To nctuate and emphasise the beginning of e bridge proper, its shore terminals ght be embellished with appropriate war elisks.

The dominating line of a oridge is the rizontal, and not the vertical; and a ries of aggressive points upon a domiting horizontal line detracts inevitably m its restfulness and dignity. One has ly to recall Bernini's statues on the idge of St. Angelo to see how very desirable a series of statues on the rapet of a bridge can be, and in Roman chitecture it marked its utter decadence. course, in any old city with fixed and minating lines of traffic, the plan, sign, and actual position of the triumal arches, as of the whole bridge proaches, must be studied in detail; but great or insuperable difficulty need se, if only the scheme be treated in an perial, and not in a parochial, spirit.

Again, sir, the question of the number arches is purely one of relative scale and sign; and to make the centre arch of y considerably greater span and height n the others would be surely an æsthetic stake, and introduce gratuitously necessary difficulties by materially ering the dominating curve of the arch, h in its spring and crown.

Westminster is the great individual nple of the nation. Why should not the dge bearing the name of Queen anor's cross be the great monument of Empire? May I recall the spirit in ich the rulers of Florence approached building of their cathedral? "The rentine Republic, soaring above the ception of the most competent judges, ires that an edifice should be conucted, so magnificent in its height and uty that it shall surpass everything of kind produced in the time of their atest power by the Greeks and mans." Florence was then entering n the most brilliant period of her eer. Is the British Empire to-day less at than was the Florentine Republic, her rulers less noble? What is to be progeny of the awful travail of to-day? art to be the only thing that is not to in the majesty of Empire, and the ry of her sons; and is she to fail ause of parsimony or the lack of the perial spirit in her rulers? These are stions to be fitly asked and answered.

our suggestion, sir, of triumphal hes, statues, and inscribed panels, dedied not to individuals but to types, athes true democratic Imperialism. It he whole Empire that is winning this ; a war which is, above all, a soldiers' tinuing battle. Among these you men, I think, eleven types of the serving n; and therein lies what may be the nt of your omission; else why, in the ne of fairness and good feeling, leave the Army Service Corps? A great eral once said that an army moves on stomach. Well, the Army Service ps is that stomach, and of it the Motor nsport Section, at least, shares to the the danger and the glory of all the other service units. True, it gets all the abuse that is going, but why carry that spirit into monumental art? And however small its relative share and sphere may have been in the wars of the past, in the war of to-day it has come into its own, and will indubitably be raised to rank with the other "Royal" branches of the service, perhaps even before the termination of the war.

[In a note appended to the letter, the editor of the "Spectator" writes: "We agree as to the entrances to the approach courts being the proper places for the triumphal arches. We apologise to the Army Service Corps, as gallant a corps as any in the Army, for forgetting them, and we must make a similar apology to the airmen."]

THE DEVELOPMENT OF ENGLISH BUILDING CONSTRUCTION.*

If there is anybody who imagines that all the materials for interesting books about building have been used up over and over again, Mr. Innocent's work on "The Development of English Building Construction" will shake his faith in the conviction. Here is a book of which the subject-matter clamoured for expression, and its author is doubly lucky in getting hold of such a fascinating subject and in possessing the skill to do it justice. He has had, of course, predecessors in this field, and he acknowledges his indebtedness to them—to Mr. S. O. Addy, M.A., for instance, who wrote "The Evolution of the English House," and to the late Herr K. Rhamm, who, in various books, had dealt with the building construction of the Teutonic and Slav countries; but it has remained for Mr. Innocent to digest all the available information, and to present, in a very readable form, a more or less comprehensive account of the evolution of building construction.

He shows that "the ridge-piece, the highest point of the roof and now insignificant, together with its supports, are the keys to the development of the construction of the building during many centuries." He provides many illustrations, graphic as well as verbal, of this proposition, and he has gathered his data from a very wide field of time and space, ransacking every available source of information—old building accounts, books of agriculture and topography, glossaries and dictionaries; and, naturally, he has had constant recourse to old buildings. He shows that many an old barn or mean-looking old cottage, of uninteresting exterior, has for its skeleton an interesting example of early construction, from which, occasionally, important points—not to say principles—may be deduced. His discoveries in this kind are an incentive to further research. In the course of his investigations he lighted upon much quaintness—of customs as well as of forms—and his text is frequently enlivened by references like these: The 'saltpetre man,' in his search for nitre, caused endless inconvenience and friction in the sixteenth and seventeenth centuries. He pulled up the floors of houses and cottages, and there is a record of a saltpetre man even digging up the floor of a church in 1624. (The generally used mud floors were porous, and so absorbed filth in the shape of nitrous matters. In order to search for and obtain the nitre required in the manufacture of gunpowder, an official generally known as the saltpetre man, had power to throw down the mud walls in common seisin, to take up the town hall floors, to dig up the floors of stables, slaughterhouses, etc." He was a corrupt person, who, "under shew of his authoritie," would "make plaine and simple people beleeue, that hee will without their leaue breake vp the floors of their dwelling house, vnlesse they will compound with him to the contrary." O villainous saltpetre man!) Mr. Innocent notes some queer uses of bullock's blood. "Sir Hugh Platt, writing in the 'Jewel House of Art and Nature,' in the year 1594, recommended for ground floors a composition of fine clay, mixed with ox blood, as making a smooth, glistening, and hard floor, and the composition would also serve as plaster for a wall. Bullock's blood was also used as a substitute for paint on woodwork: it was mixed with soot or 'rud.' So late as 1861 the south door of York Minster was treated with a composition of rud and bullock's blood." What is the explanation of this faith in bullock's blood? It is partly based, perhaps, on the strength of the ox, and partly on the religious or superstitious observances with which the animal is associated.

Much more that is quaint and curious crops out on almost every page of the book; which, however, is by no means merely a collection of interesting ana. It is, on the contrary, a solid and scholarly contribution to the technical side of the subject, giving clues to many things in modern practice which the architect who is endowed with a just measure of natural or acquired curiosity will be delighted to trace to their origin in the backward and abysmal of old time. Mr. Innocent has succeeded in investing almost every item of building construction with fresh interest and a new significance, and has thus laid his fellow-architects under an obligation of gratitude which they will not be slow to acknowledge. Seventy-three illustrations, each performing some well-defined function, add greatly to the value of a volume which seems certain to assume standard rank.

*"The Development of English Building Construction." By C. F. Innocent, A.R.I.B.A., Honorary Lecturer in English Architecture at the University of Sheffield. Pages xiv. + 204, price 10s. 6d. net. (The Cambridge Technical Series). Cambridge: At the University Press.

CORNWELL NATIONAL MEMORIAL

Public announcement has already been made of the intention to commemorate the magnificent example of devotion to duty given by John Travers Cornwell, of His Majesty's ship Chester, at the great naval battle off Jutland, by the erection of cottage homes for disabled sailors and marines of the Royal Navy and the establishment of naval scholarships for deserving lads. A most successful meeting in support of the Memorial Fund was held at the Mansion House last week, at which the intentions of the committee were disclosed more in detail by the Mayor of East Ham, the borough in which the boy Cornwell was born and went to school. It was announced also that the record of the lad's heroism is to be preserved in a painting by Mr. F. O. Salisbury, and that photogravures of the work will be distributed amongst schools, where they will serve as a patriotic inspiration to British boys.

The Mayor of East Ham gave some particulars as to the form the memorial would take. It was proposed to build semi-detached cottages in the form of a square, with some central architectural feature whereon would be engraved an account of Jack Cornwell's heroism. To carry out

this plan as well as the endowment of naval scholarships would entail an expenditure of £50,000. The undertaking might be thought an ambitious one, but such heroism as Cornwell's entailed a national obligation, and as a nation we ought to acknowledge our debt of gratitude to the Navy. Mr. F. O. Salisbury was placing his talent gratuitously at the service of the fund by painting the incident on the Chester, and Sir William Dunn had promised to defray the cost of 5,000 photogravures of the painting to be placed in the schools.

A PLEA FOR BETTER COTTAGES.

Miss (or Mrs.) Marianne Dale writes in the "Daily News" an eloquent plea for beauty in cottage and street:—

As many thousands of new cottages are soon to be dotted about our lovely land, it is to be fervently hoped the local authorities will not be allowed to build at their own sweet will, regardless of beauty of form and of the countryside.

Before it is too late, steps should be taken to guard against the fate that has befallen beautiful Ireland, where so many useful but singularly ugly, vulgar-looking new cottages have done their best to spoil the taste of the modern Irishry.

That cottages, even in rows, need never be ugly is demonstrated by the almshouses all about England. I urge that no Government cottages should be built or gardens planned (an important feature) without consultation with an authority who understands art, architecture, and landscape gardening. Such people need not necessarily be men.

Beauty is not expensive. I have seen quite delightful but absolutely plain whitewashed cottages, with green window shutters and doors and good slopes to the roof.

As regards the towns (so hideous in parts) one beautiful new street in a slummy borough such as Bermondsey would be regarded as a proud possession by all Bermondsey people. As Bermondsey, I believe, sent the largest contingent of any London borough to Kitchener's Volunteer Army, and as the first London V.C. in the war sprang from Bermondsey, I urge that beauty should be considered there by the L.C.C., who have some big schemes of reconstruction on hand. "A thing of beauty is a joy" to all beholders. Let us have a chance to behold it.

TO PROMOTE APPLIED ART.

The proprietors of "Drawing" announce their intention of issuing a further monthly sixpenny publication to be called "Design: A Herald of the Union of Art with Industry," which is to insist on the vital necessity of good design, and to keep the manufacturer alive to his obligation to make his wares as attractive as possible. Among the objects of a bureau, which is to be opened in connection with the paper, is "to give personal help and advice to manufacturers, craftsmen, and designers in all questions concerned with the production and disposal of designed goods," and "to recommend architects and engineers of good taste and thorough experience for building factories, shops, and houses." We hardly like this suggestion of invidious distinctions. The editorial offices of the proposed new paper are at 210, Strand, London, W.C.

ENQUIRIES ANSWERED.

Steam-brushing Brickwork.

J. W. (Lee, S.E.) writes: "A friend informs me that he has seen in use, in London, a steam brush, which was being used on the fronts of houses with the object, apparently, of bringing the brickwork to a uniform tone and texture. Can you give me any information on the subject?"

—We have seen the operation to which our correspondent seems to refer. Probably the object is two-fold—to take off the rawness of new brickwork, bringing it into harmony with old work in the same street, and to impregnate the work with a preservative or water-proofing solution which looked like distilled tar. It certainly had the effect of bringing the tone of new or repaired houses, or the repaired portions of old houses, into harmony with the rest of the work in a street in which a respectably aged appearance is probably of rental or letting value. The operation was being performed by the Steam Brush Company, of Belvedere Road, Lambeth, S.E.

The Open-Hearth Process.

SIRIUS (Battersea) writes: "Where can I find a clear description, properly illustrated, of the open-hearth process of steel manufacture?"

—"Iron and Steel," by J. H. Stansbie, B.Sc. (London: Archibald Constable and Co., Ltd.; price 6s. net), includes a long and well-illustrated chapter on the open-hearth process, which is explained fully and lucidly. "Clearly," says the author, "the principal factor to the general success of such a method is the generation of a sufficient temperature to obtain a large mass of low carbon metal in a condition for tapping into a ladle, and casting into ingots, after the refining and finishing operations have been carried out. This is effected in the open hearth by the principle of regeneration, which was first made a practical success by Siemens; and the adaptations of this principle to the reverberatory furnace is the leading feature of the Siemens and all the more modern open hearths."

OBITUARY.

Mr. Joseph Betham.

The death has taken place at his residence, Walmer Road, Birkdale, of Mr. Joseph Betham, at the age of eighty years. He was formerly a well-known builder and contractor, and was chairman of the old Birkdale Urban District Council, and had been chairman of all the Council committees.

Mr. R. Edwards.

Mr. Robert Edwards, of Llys Derw, Mold, the town's oldest inhabitant, and a remarkable personality, passed away last week. He had been in business in Mold as a builder for upwards of seventy years. He was an expert wood carver, and exquisite specimens of his skill grace the Parish Church, the lodge-room of the Sir Watkin Lodge of Freemasons, and many other important buildings. Though in his ninetieth year, it was only during the last five years that his health began to fail, and while yet a septuagenarian he was known to travel afoot to distant scenes of his contracts.

NEWS ITEMS.

Scottish Veterans' Garden City Association.

The Scottish Veterans' Garden City Association, which was formed over a year ago to provide housing, training, and employment for Scottish soldiers and sailors disabled in the war, has secured ground from its president, the Earl of Wemyss, and is proceeding with the erection of cottage homes and workshops. Committees have been formed throughout Scotland to arrange local schemes.

Admiralty Housing at Gourock.

Messrs. McTaggart and Co., Glasgow, the contractors for the Admiralty building scheme at Gourock, began operations last week, and the work is to be hurried forward. The present plans provide for forty-eight cottages, on the lower side of Reservoir Road, for the accommodation of foremen and leading hands at the Torpedo Factory; the main section is to take the form of a crescent, and the cost is estimated at about £20,000.

Repairing Cape Town Castle.

The historic castle of Cape Town, erected by J. Van Riebeek, the first Governor of South Africa, in the days when the Dutch originally settled in Cape Colony, has been restored. A letter has been forwarded by the Council of the National Society thanking General Thompson for the very able manner in which the work has been executed. We note from the report that the powder Pudlo was adopted for making the cement work damp-proof and watertight.

Lists of Men of Military Age.

At Dudley Police Court on September a building contractor, employed in connection with the corporation housing scheme, was summoned, under the Defence of the Realm Act, for failing to post up a list of male employees of between eighteen and forty-one years of age. When his attention was called to the omission defendant explained that he had intended to put up the list, but had neglected to do so. Defendant now stated that he had kept the military authorities informed of all eligible men for the Army who had left his firm's employ, and had been commented in the matter. A fine of 20s. was imposed.

Granite from Norway.

It is stated in the "Times" of September 15 that a Falmouth firm of granite merchants have been officially informed that a contract for granite for the Metal Docks, in Scotland, has been placed in Norway. The Cornish firm offered for weeks ago to furnish the supply in twelve weeks from receipt of particulars. They had already a definite offer from a steamship company as to freight. It is further stated that the placing of this contract has caused indignation among granite workers and quarry-masters in Cornwall. The trade has been hit by the war, because all building operations, except necessary work and Government contracts, has been suspended. Over 50 per cent. of the men have enlisted, and those now in the quarries are all over military age. They have for the most part sons or relatives fighting. The contract is not large; it is for 12,000 tons. The sum involved is not much over £3,000, but spent in Cornwall it would mean the payment of £1,500 for labour among a class who have great need of help. This is the first contract of any size that has been offered for eighteen months.

EDUCATIONAL PROGRAMMES, SESSION 1916-17.

iversity of London School of Architec- e and Department of Town Planning.

n the School of Architecture the pro- ors are: Mr. F. M. Simpson, .I.B.A., and Mr. R. Elsey Smith, .I.B.A., with Mr. Leslie Wilkinson, .I.B.A., as assistant professor, and Arthur Stratton, F.R.I.B.A., as lec- r. In the Department of Town Plan- g, Mr. S. D. Adshead, M.A., .I.B.A., is the professor. In the partment of Painting and Sculpture Frederick Brown is Slade Professor, Havard Thomas Professor of Sculp- , Mr. H. Tonks Assistant Professor, Dr. T. Borenius Lecturer on the His- of Art. There are both degree and ificate courses in architecture, and in n-planning there are certificate and oma courses. In the diploma courses n-planning may be studied in conjunc- either with civic architecture or with engineering.

he certificate and degree courses are nged to provide students before they r an architect's office with that sys- atic, practical training which is roved and recommended by the Board Architectural Education of the Royal itute of British Architects. Exemption n its Intermediate Examination is nted by the Royal Institute of British nitects to students who take their de- or receive a First Class College Certi- e. The courses of the School of Archi- ure are not intended to supersede lage, although the terms of pupilage generally modified considerably to ents who have passed successfully ugh them. The Degree Course pos- es the additional advantage of enabling ents to continue their general studies o the level of the Intermediate Exami- on of the University concurrently with mencing their professional training.

Academic Design Course affords ents the opportunity of exercising their gination on problems of considerable and of planning and designing on a e and dignified scale.

ne degree and certificate courses are nged in three stages. Students will be allowed to pass from one stage to her until they have reached the pre- ed standard and obtained a definite ifying number of marks in each stage. rder to attain the prescribed standard obtain the qualifying number of marks ident must attend regularly each part of course throughout each session, and t pass the prescribed examinations.

ne courses include: (1) A thorough nding in the details and theory of ding Construction, and in the nature, erties, and working of materials, by ns of (*a*) lectures, (*b*) studio work, demonstrations and manual work in craft approved by the University (held ne Trades Technical School, Great hfield Street, by kind permission of the enters' Company), (*d*) visits to work- s, and to buildings in course of con- tion.

University of Sheffield.

ne Department of Architecture, in h the lecturer is Mr. W. S. Purchon, ., A.R.I.B.A., was founded at the e of the Sheffield, South Yorkshire District Society of Architects and Sur- rs, which is associated with the Coun- nd the Senate of the University in its agement. The Department provides: A course forming part of the ordinary ee of Bachelor of Arts. 2nd. A course ng to the degree of Bachelor of Arts with Honours in Architecture. This consists of a three years' day course and two years' part-time course. 3rd. A certificate course consisting of a two years' day course and a third year part-time course. 4th. A diploma course. This is a two-years' part-time course following the Certificate Course. 5th. Special evening courses in architectural drawing. 6th. Courses in surveying. The day courses give a systematic course of training for students wishing to become architects, to be taken by them before entering an architect's office, though not necessarily before they are articled. The part-time course (consisting principally of evening lectures) forms a continuous course of study for students during their pupilage, and also for qualified assistants.

All the courses are open to those who are already in architects' or surveyors' offices. Students who are unable to take a complete course may, by arrangement, attend any part or parts of the course approved by the lecturer.

The courses are adapted to the requirements of the examinations of the Royal Institute of British Architects. Subject to the approval of the Council of the Royal Institute of British Architects, exemption from the R.I.B.A. Intermediate Examination will be granted to students of the University of Sheffield who obtain the first class certificate.

The University grants the Degree of Bachelor of Arts with Honours in Architecture to students who have attended the three years' day course and the two years' part-day and part-evening course, and who have complied with the regulations for the Honours School of Architecture. First and second class certificates are awarded to students who have attended the two years' day course and the third year part-day and part-evening course, and have passed the prescribed examinations. Diplomas are awarded to students who have taken the two years' day course and the three years' part-day and part-evening courses, and who have complied with the regulations for the Diploma. Students attending the courses must be 16 years of age. They must apply in the first instance to the Lecturer in Architecture.

A works pupils' certificate course has been arranged by the University in consultation with the Sheffield Master Builders Association to meet the requirements of students who are working with the object of becoming master builders or of occupying other important positions in building businesses. The course has been arranged on the lines of the Works Pupils' Certificate Course in Engineering, the students attending the day courses of study at the University during the winter six months (October to March inclusive), and at the works during the summer six months (April to September inclusive). A Works Pupils' Certificate (Building Section) is awarded to students who complete the three years' course and pass the necessary examinations. It is considered that by taking this course a student will acquire that knowledge of scientific and theoretical matters which will enable him to benefit more fully from his practical work during apprenticeship, and which will be of still greater value to him in later years.

L.C.C. Camberwell School of Arts and Crafts.

Address, Peckham Road, S.E. Principal, W. B. Dalton.

Day classes are held in drawing and painting, lettering and illuminating, drawing and design for surface decoration, modelling and carving, and cabinet-making, and there are evening classes in several architectural and building subjects.

In the class on Architectural Design, Monday and Wednesday, 7 to 9.30 p.m., the teacher is Mr. W. T. Benslyn, A.R.I.B.A., A.R.C.A. (Arch.); in Architectural Drawing the teachers are Mr. F. A. Llewellyn and Mr. W. S. Owen, M.A., A.R.I.B.A.; in Architectural History the teacher is Mr. E. A. Young, A.R.I.B.A.; and in Building Construction the teachers are Mr. F. E. Webster, A.R.I.B.A., P.A.S.I., and Mr. F. A. Llewellyn. A class for the study of the History of Decoration is conducted on Tuesday evenings by Mr. H. Davis Richter, R.B.A.

Northampton Polytechnic Institute, London, E.C.

Address, St. John Street, London, E.C. Principal, R. Mullineux Walmsley, D.Sc.

The programme of work for the new session has necessarily been given very careful consideration by the governing body, and, speaking generally, it has been decided to continue to announce the various regular classes which have been announced in previous sessions. The courses in the Engineering Day College are to be continued, but the second and third year courses, which ordinarily extend from September to Easter, are, in 1916-17, to commence in January and to be continued until July. This will enable the students to work up to Christmas in the munitions workshop, which has been fully employed in making gauges and parts of armaments during the whole of the summer vacation.

In the evening classes in Engineering it has been found impossible, in the session 1916-17, to arrange for special series of advanced lectures, which have been features of recent sessions, as the possible lecturers who have been approached are all fully engaged in work connected, directly or indirectly, with the war. The only new class, therefore, appearing in the "Announcements" is a "Glass Workers" evening course, which is being jointly undertaken by the Technical Optics and the Technical Chemistry Departments.

Royal Technical College, Glasgow.

In the department of Architecture and Building in this college the staff is as follows: Professor, Charles Gourlay, B.Sc., A.R.I.B.A., F.S.A.Scot., I.A. Lecturer and Chief Assistant, Jas. S. Boyd, Licen. R.I.B.A.; Lecturer and Assistant, Joseph Wilson, Dip. Arch. (Glas.); Assistants, James Napier, David M'Naught, David M'Lullich; Lecturer on Builders' Quantities, John L. Mackinnon.

Qualification required for entrance to this department is the course certificate of a recognised continuation class or other approved course. For those who have not a qualifying certificate, entrance examinations in building, drawing and mathematics are held. The Faculty of Surveyors of Scotland (Western District), the Glasgow Master Wrights' Association, the Master Masons' Association of Glasgow and Neighbourhood, and the Association of House Factors and Property Agents, grant prizes to students attending the classes. Visits to works in progress will be conducted on Saturday afternoons during the month of April. The attention of students is directed to the lectures delivered under the auspices of the Architectural Craftsmen's Society on alternate Friday evenings during the session, and they are advised to become members of the Society.

The college has also classes in building construction, building superintendence, carpentry and joinery, masonry, brickwork, etc.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 *lines* (*about* 28 *words*) 1*s.* 6*d.*; 3 *insertions*, 3*s.*

ADVERTISER wishes to contract for reinforced concrete or other work of national importance on a percentage basis or direct labour principle. Personal supervision. Economic expedition.—Box 897.

BUILDER'S Clerk (38), disengaged; 18 years' experience in good general firm; first-class reference; ineligible.—Jackson, St. Heliers Bramley, Guildford, Surrey 885

BRICKWORK and Pointing wanted by the rod or lump. New or old work. Or as Working Foreman. Town or country. Good references.—Address M., 38, Clifton-gardens, High-road, Chiswick.

CARPENTER requires employment. Bench, fixing, alterations, or first-class jobbing shop.—Gregory's, 25b, Fergusson-road, New Barnet.

CLERK of Works, shortly completing new munitions factory, desires similar engagement. Reinforced concrete, special qualifications. Would take full responsibility to owners or employ direct labour. Ability and grit.—Box 896.

FOREMAN Carpenter seeks re-engagement. Town or country. Good references. Age 48.—H. S., 19, Cumberland-park, Willesden Junction.

GENERAL Foreman or Clerk of Works (49, disengaged) seeks re-engagement. Bricklayer. New or alterations. Abstainer. Good reference and testimonials.—T. B., 55, Burton-road, Kingston-on-Thames.

PAPERHANGING (any description) wanted (piecework). High reliefs, Anaglyptas, leathers, soirettes, embossed papers, Tekko, Emdeca, canvas, and all latest productions. Panelling and special designs. Town or country.—Logan, 185, Loughborough Road, Brixton, S.W.

PLUMBER (Registered) wants work. Good all round. New or repairs. Day, piece, or constancy. Good references.—Plumber, 11, West-square, St. George's-road, S.E.

RE-ENGAGEMENT as Navvy Ganger or Contractor's Foreman. Well experienced in excavations, timbering, concreting, or drainage. Good references.—H. Goodman, 93, Goodinge-road, Islington, N. 898

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

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September, 1916.

THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, October 4, 1916. Volume XLIV. No 1135.



LUXOR.

(From a water-colour Drawing by A. C. Conrade.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 4, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1135.

EDITORIAL.

TO Captain Eric Norman Frankland Bell, who, as we recorded in our issues of July 12 and 19, was killed in action in France in July, has been awarded the Victoria Cross. With what superb gallantry he won it is perhaps best related in the official language of the "London Gazette" of September 26. Such deeds need no embellishment of words. "He was in command," the official record reads, "of a trench mortar battery, and advanced with the infantry in the attack. When our front line was hung up by enfilading machine-gun fire, Captain Bell crept forward and shot the machine gunner. Later on, on three occasions, when bombing parties, which were clearing enemy's trenches, were unable to advance, he went forward alone and threw trench mortar bombs among the enemy. When he had no more bombs he stood on the parapet, under intense fire, and used a rifle with great coolness and effect on the enemy advancing to counter-attack. Finally he was killed rallying and reorganising infantry parties which had lost their officers. All this was outside the scope of his normal duties with the battery. He gave his life in his supreme devotion to duty." A noble death. And all who knew him as a student at the Liverpool University School of Architecture bear witness that he was as modest and lovable as he was brave—"the gentlest creature I ever met," is the testimony of the principal. Of his promise as an architect something may be inferred from drawings of his which have been published in this Journal, but much more from the high opinion of him that has been expressed by those who had the best opportunities of watching his development as an architect. Many architects have won high distinction in the present war, and many have given their lives "in supreme devotion to duty," but Captain Eric Bell has been the first to be awarded the V.C.

* * * *

From a communication from the R.I.B.A. which is published on a later page it will be seen that the Government of the Commonwealth of Australia refuse to postpone the competition for the Federal Parliament Building at Canberra. Specious pleas for this obduracy are set forth. After the war, (1) "the rebuilding of Europe" will occupy the attention of British and Continental architects; (2) the large expenditure already incurred renders early occupation of the capital very desirable; and (3) the work will provide employment for hundreds of Australians after the war. There is no vital force in any of these objections. To speak of "the rebuilding of Europe" is to exaggerate the situation rather grossly, and to assume that British architects will be much in demand for the Continent is perfectly gratuitous. They are so numerous that one could wish for them many more engagements for France and Belgium than they are at all likely to obtain; and while we trust and believe that the after-w developments in Britain will make architects ve busy, we cannot suppose that the entries for important a competition would thereby be adverse affected. Where art and fame are so conspicuous involved, the average temperament of the professi is but little submissive to purely business consider tions; and very many important competitions ha been won by extremely busy men.

* * * *

Objection No. 2 may be excellent as a mone saving expedient, but it has very little force as argument. There are greater evils than a slight extended loss of interest on invested capital. Obje tion No. 3 is equally unsubstantial. Surely t thousands of young Australian patriots who have gallantly come to the help of the Old Country wi in the boom that will immediately follow the pr clamation of peace, get their full share of the buil ing activity which the Government anticipates f architects; hence the difficulty in this respect will b not to find employment for them, but to secure many hundreds of them as may be requ:red for t building of the Parliament House: the Governme are blowing hot and cold with the same breath. competition held under abnormally bad conditions not likely to produce phenomenally good resul Moreover, there is something sinister in the persi ency with which architectural opinion is flouted w respect to Canberra. In spite of the remonstranc of the organised architects of all countries, t Government persevered in an irregular method procedure with respect to the lay-out; and when got, from an American, a better design than deserved, it must needs meddle and modify a muddle until the affair became tragi-comical. A now the same type of dull farce is in active rehears the stubbornly self-sufficient Government havi apparently repented of the momentary lapse in lenity which consented to the appointment of rep sentative assessors; whose task—if, in face of t present circumstances, they can be induced to purs it—will be that of adjudicating upon designs su mitted mainly by alien neutrals.

* * * *

Too often, in describing a new building, the l journalist suppresses the name of the architect. if in a frantic effort to atone for this remissness Cardiff writer produces a paragraph of rather lav attribution. "Two famous Welsh architects," says, "played a prominent part in the construct of London's chief streets and buildings. Wh John Nash built Regent Street, the Regent's Cir Regent's Park, and the Marble Arch, and re-bu Buckingham Palace and other principal buildin Inigo Jones constructed Covent Garden, Linco

Inn Fields, Gunnersbury, and the river front of Somerset House, and repaired St. Paul's Cathedral and other buildings." No doubt this is very useful information; but, being slightly out of date in respect of some of the buildings and chronologically topsy-turvy in putting Nash before Jones, it may possibly create inaccurate impressions in the minds of those to whom the matter is sheer news. Nash may pass for a Welshman, and Jones may be justly claimed for one on the strength of his name, although tradition has it that he was a Londoner bred and born, and that is why he has been fatuously called "the English Palladio." As to Jones's work, would that as much remained of it as the paragraph suggests. Covent Garden Market, as we know it, was built by William Fowler, no earlier than 1830. St. Paul's, Covent Garden, as built by Jones about 1633, was destroyed by fire in 1795, and rebuilt by John Hardwick. Few but precious are the traces of Inigo Jones in Lincoln's Inn Fields, Lindsey House being his last stronghold; and visitors from Cardiff will have been sadly misled if in admiring Sir William Chambers's river-front to Somerset House, they imagine that they are confronted with the work of Inigo Jones, whose building was destroyed before 1776, when Chambers began to erect his masterpiece. St. Paul's Cathedral is better able to correct any possible confusion with its precursor; but the writer of the paragraph would have done well to make it clear that his reference was to old St. Paul's.

* * * *

Nash's adventures in Regent Street, sanctioned by an Act of Parliament, and pursued between 1813 and 1816, cost about a million and a half sterling. Sir Robert Smirke declared that none but the indefatigable Nash could have carried the scheme through. Nash designed all the buildings except two large blocks by Sir John Soane. As a termination to the eastern arm of the Quadrant, Nash built, in 1819, the façade of the County Fire Office. It was modelled upon the design of the columnar façade to old Somerset House designed, as the Cardiff writer recalls, by Inigo Jones. Nash's particular *forte*, says Mr. A. E. Richardson, in his "Monumental Classical Architecture in Great Britain and Ireland," "was the harmonious grouping of masses of buildings, all of which, though different in composition, produced unity of effect when placed in juxtaposition." His plan for Regent's Park was produced in 1793, when he was architect and surveyor to the Commissioners of Woods and Forests, but building was delayed until 1812. The records show that John Nash was the best-abused architect of his time, and the merit of his work in Regent Street was first generally recognised when we were about to lose it.

* * * *

There is now raging a terrific controversy on "The Housing Problem in Denbigh." One participant in it, "C. H. D.," has been rather severely mauled. He is "your irascible and fire-and-brimstone-dealing correspondent," and a lady apostrophises him in beautiful dithyrambics: "Go to! thou weakling apostle of a worn-out creed! We forgive you, C. H. D.'; for soon the herbaged hills will fade from view, the vine leaf and the meadows fold their green. The silver sheen we loved upon the Elwy's crest, and all the music of the dimpled earth, the lurid sunlight on the sinewy vale, the new-born breeze embosomed with the heather's fragrant kiss—twill soon all end for you and me; and I know, wherever I may be, my spirit will pass along the mystic beauty of the glimmering Clwyd's vale"—we will here pause to take breath, and to encourage the reader to believe that, in spite of appearances, we are on the outskirts of the housing question; for the lady (the letter is signed "Kate Jones") develops her argument thus: "And when you and I have gone, 'C. H. D.,' little children shall rise with large blue wondering eyes, and shall laugh or weep because of our existence; shall grow to curse or bless us in maturity"—(we begin to see daylight)—"shall live in sordid homes, or homes of peace and light because of us; and so far as one being has the power I have sworn to use that power for the rising hope, even though it have the appearance to 'C. H. D.' of a bull in a china shop." Sublime resolve! But one might have anticipated that when a lady so heavily laden with poetry got well inside her subject something very serious would happen to the crockery-ware. We have seen many curiosities of the housing question, but we think that this poetic solution by Kate Jones would easily take first prize at an Eisteddfod.

* * *

An editorial note in the "Nation" puts forward a characteristically courageous suggestion with respect to war memorials: "Every town will wish to set up some memorial for its local heroes after the war. Why should not this memorial take the form, not of some allegorical monument, but of a really bold and carefully considered piece of town planning?" Why it should not is hard to tell. Why it will not is pretty evident from an extremely modest proposal that has been put forward, appropriately enough, in a parish magazine—that the local heroes should be celebrated by attaching memorial cards to a church wall! Extremes meet; and there can be no one outside that particular parish who will prefer the meaner course. Grandiose though the town-planning proposal may seem, it is not utterly impracticable, although it might well be adapted to a slightly different application. It is rather difficult to see the relevancy of a town-planning scheme to the commemoration of local heroes. "Circumspice" would be an apology rather than a monument; and a memorial to heroes should be less vague and vast, something upon which a single gaze can be concentrated. But the town-planning idea, large as it is, seems capable of expansion. If a new and greater Britain is indeed to emerge from this great war, if all things are to be re-planned and reorganised, it would be magnificently appropriate to include a scheme of town-planning for the entire kingdom, co-ordinating the many plans that are springing up independently of each other in all directions.

* * * *

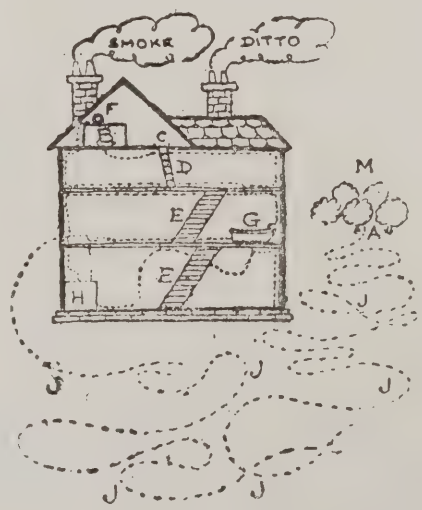
"A Critical Housewife" makes, in the "Daily Sketch," a bold suggestion, with respect to the economics of housing. "If," she argues, "it is worth while organising and spending, ultimately to save money and gain efficiency at the front, it is surely equally worth while to organise and spend at home"; and "the most important help to domestic economy is better domestic architecture." She means, more especially, better planning, for she demands "healthy, labour-saving houses, in which cleaning is no longer a series of costly operations possible only to the well-to-do." Until we get them, we shall continue to be a wasteful nation, spending far more on the essentials of life than we need do if only we tackled the situation with intelligence and spirit. Her proposal is that, when the war is over, we should carry on the war expenditure for another year, spending the money on construction instead of destruction, building pleasant homes in which healthy children can be reared, so that "a shiftless creature, with the bad habits of poverty stamped into its body and brain," shall be rare rather than abundant. This is of the essence of the housing question, and we welcome every instance in which this fundamental factor is recognised.

HERE AND THERE.

MR. TWELLS BREX deserves well of his countrymen; nothing less indeed than a civil D.S.O. should be awarded him for displaying such conspicuous mirth in the face of serious affairs. Mr. Lloyd George, master magician that he is, has made it plain that for us to sing in War time is a very right and proper thing, and remembering the old saying that "Care to our coffin adds a nail no doubt, and every laugh so merry draws one out," I for one would extend my thanks to Mr. Twells Brex for the enlivening column which he wrote for the London "Evening News" one day last week, in which he gave his own experiences concerning the matter of amateur plumbing. In these days there is a dearth of many things, plumbers and plumbers' mates among them, for those who formerly were wont to wipe a joint or solve the mystery of water-hammer must now be sought, maybe, in a trench in Flanders. Hence the occasion for every man to be his own plumber, an occasion recognised by the "Evening News" in publishing a series of articles explaining how a ball-valve might be redeemed from incipient leakage, how a fractious geyser might be coaxed into submission, and how a man might successfully overcome the stupendous task of putting on a tap washer. One of the cult, a master plumber honest and true, has told in downright fashion how things plumberial might be accomplished satisfactorily by the handyman of the house. Mr. Twells Brex supplies a commentary, and having this before me I cannot refrain from the old Greek game of "passing on the torch," for a merry heart is more than ever a national asset just now, and it is on that account that I take the present liberty of abstracting some of what Mr. Twells Brex has written.

* * * *

"The master plumber points out, with conscious irony, the advisability of the amateur plumber making himself 'acquainted with the "run" or direction of his water-pipes' before he starts plumbing. He does not explain *how* the amateur plumber is to do this. He does not admit how often the first two days of the professional plumber, the plumber's mate, and the non-commissioned officer who comes to hold the candle are spent in discovering the 'run of the pipes.' Some of them accomplish it by putting themselves into a hypnotic trance. Others bring bottles with them, which perhaps contain genies who assist plumbers. All the best plumbers proceed by rule of thumb that the pipes must be somewhere, and, by a process of elimination—mostly of walls and wainscotings—they eventually find them. The master plumber then warns the handyman in the house of the 'normal stop-cock,' remarking that 'it is usually a troublesome affair to get at, and one must have a key to fit it. The box lid becomes rusted and is opened with difficulty, and should it so happen to be covered with snow at a critical moment—say, after dark—it is almost a hopeless task to locate it.'"



DOMESTIC WATER-SUPPLY SYSTEM.

* * * *

Mr. Twells Brex has his own interpretation of these problems, and gives the sketch here reproduced to illustrate his points. "The dotted line represents the 'run' of the water supply from (A) the 'normal stop-cock' (5 ft. deep) in the middle of (M) shrubbery 80 ft. from house; (J) (J) (J) various parts of garden through which water-pipe rambles; (B) normal water tank situated (conveniently for frosts) under the roof, accessible by (C) trap door 12 in. square, and (D) ladder from the top landing. (E) is the main staircase of the house down which (B) empties itself when the pressure from (A) is too great for the nerves of (F), a normal ball-valve. (G) is a bath which can be used when (A), (B), (F), and (H) are in working order (this sometimes happens). (H) is the kitchen boiler, accessible only after Zeppelin raids. The amateur plumber will observe that it is possible for his water supply to develop serious disease at any point or points, anywhere in the outdoor or indoor course of the pipe 'run,' or at the tank, the ball-valve, the bath supply, or the boiler. Unless he happens to be an officer of a Volunteer regiment needing trench practice, he had better leave anything wrong in the outdoor pipes to the professional plumber."

* * * *

"The commonest indoor waterwork trouble of the householder is an overflowing tank. The ordinary domestic water tank overfills at the average rate of ten gallons a minute, and the ordinary builder equips it with an overflow pipe that carries away a gallon a minute. It is obvious that the immediate and pressing problem of the amateur plumber is to deal with the surplus nine gallons a minute. My own amateur experience is that the best procedure is to cover the floor of the tank loft with strips of oilcloth to prevent the bulk of the water from percolating into the bedrooms below, to open the trapdoor to give a clear course for the brook, to confine the brook by artificial dams as far as possible to the staircase, and to leave the hall door open for its exit. It will eventually be advisable to send for the professional plumber to complete the job.

* * * *

"Burst pipes are the next commonest troubles that confront the amateur plumber. Their usual hour of confrontation is about midnight on a January night. The specimen house here illustrated once celebrated the stroke of a New Year by the simultaneous bursts of eleven pipes. The amateur plumber need say little of the rest of the drama. It is all set out in the masterly passage upon stop-cocks that I have quoted from the master plumber. The bitterest memory of it is of the altercation between the amateur plumber who has been on all-fours in the snow for an hour (in his pyjamas), and the assistant amateur plumber, who has been bailing for an hour in the drawing-room



CURRENT ARCHITECTURE (SERIES IV.). II.—CONCORD HOUSE, WANDSWORTH, LONDON, S.W.: ELEVATION TO YORK ROAD.

WILLIAM AND EDWARD HUNT, ARCHITECTS.

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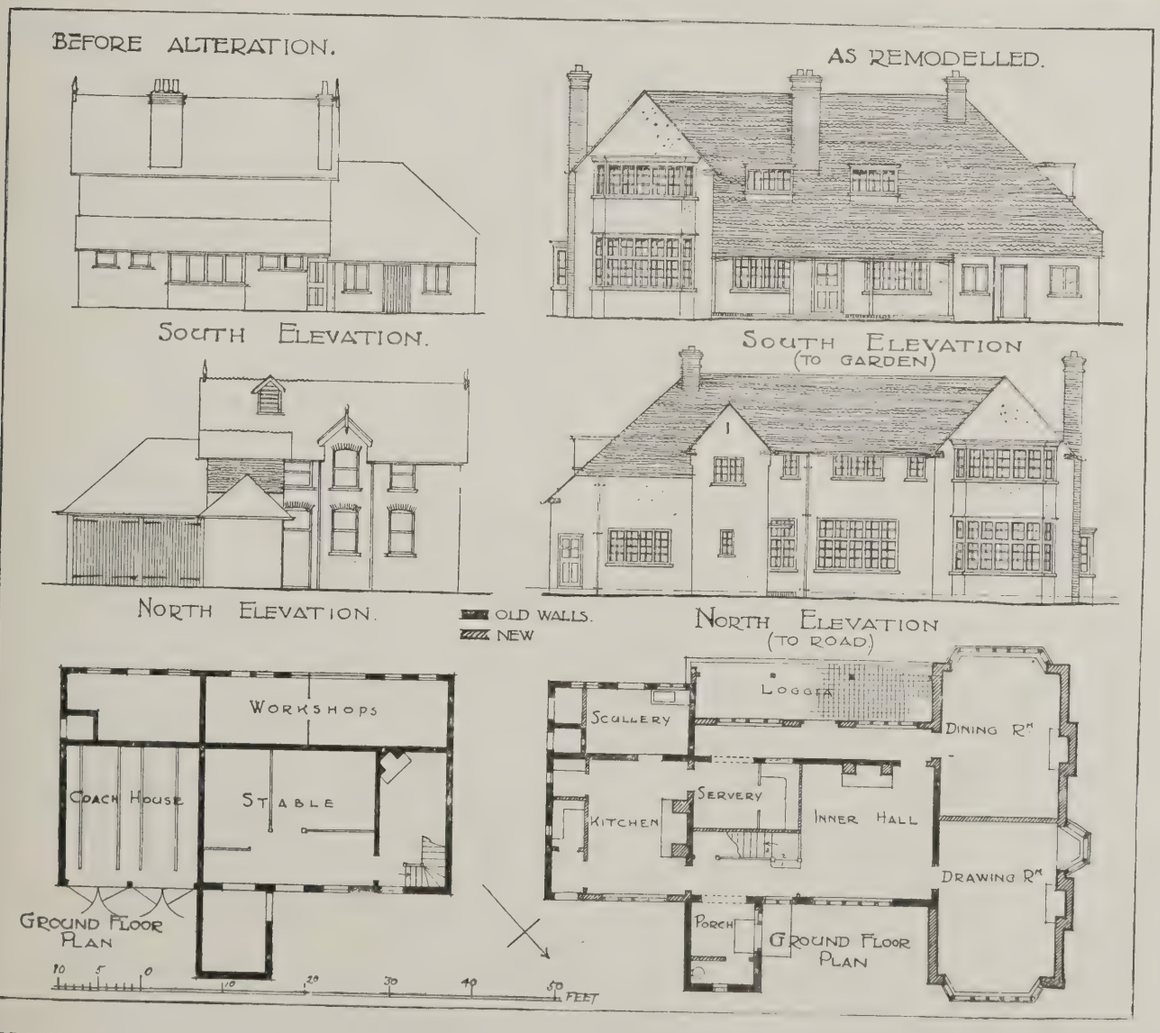
CURRENT ARCHITECTURE (SERIES IV.). III.—CONCORD HOUSE, WANDSWORTH, LONDON, S.W.: DETAIL OF LOWER STOREYS, HIGH STREET.

WILLIAM AND EDWARD HUNT, ARCHITECTS.

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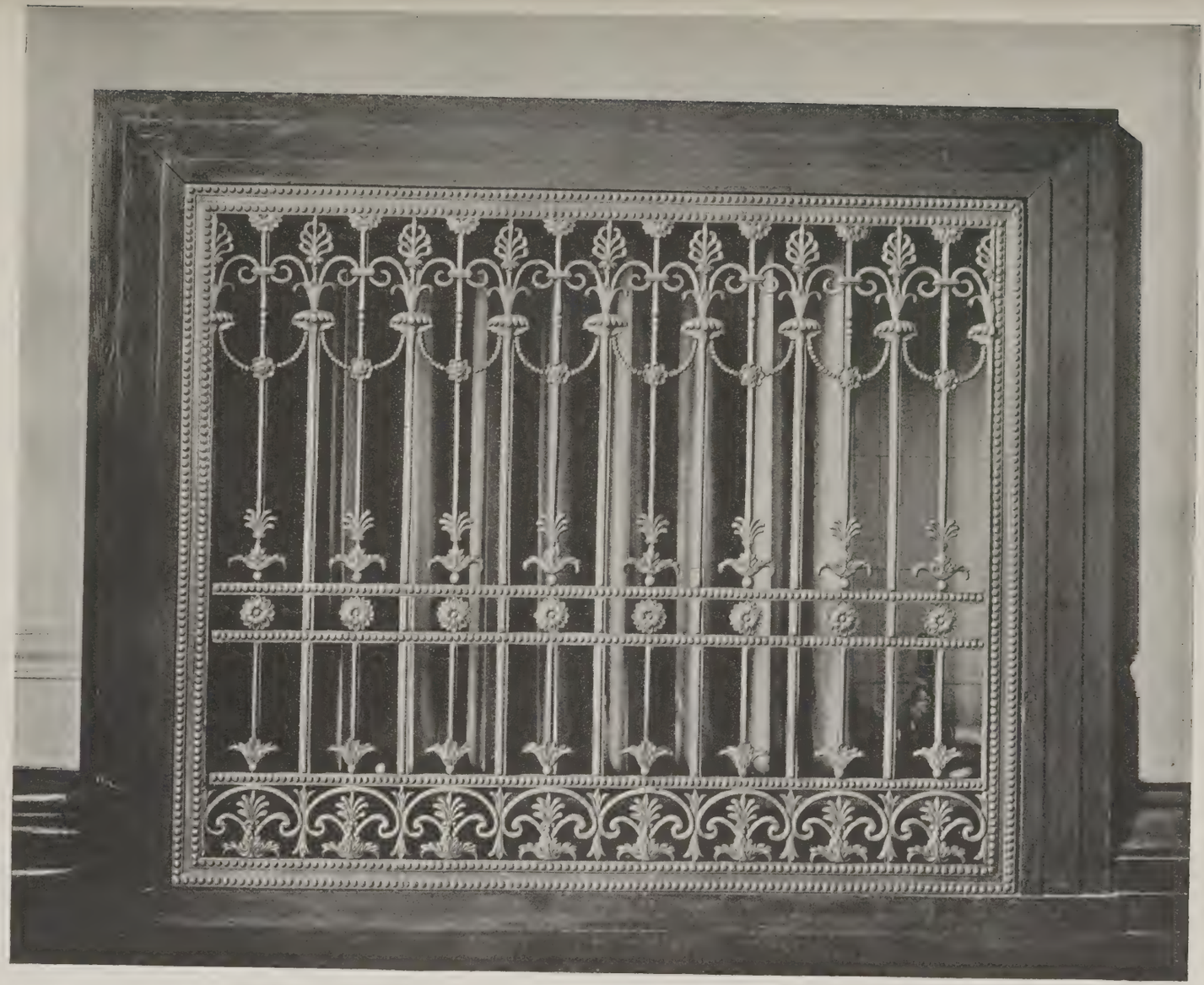
Garden Front.



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XLIII.—CONVERSION OF STABLE BUILDING INTO A HOUSE AT WIMBLEDON, LONDON, S.W.

ARTHUR STRATTON, F.R.I.B.A., ARCHITECT.

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DETAILS OF CRAFTSMANSHIP (SERIES II.). XVI.—LEAD GRILLE OVER RADIATOR, KING'S COLLEGE FOR WOMEN, LONDON, W.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

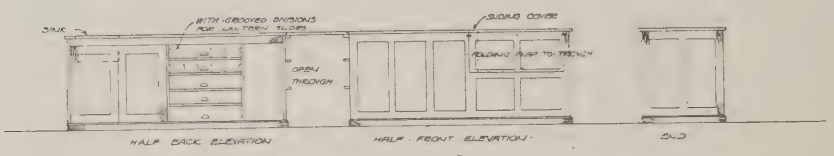
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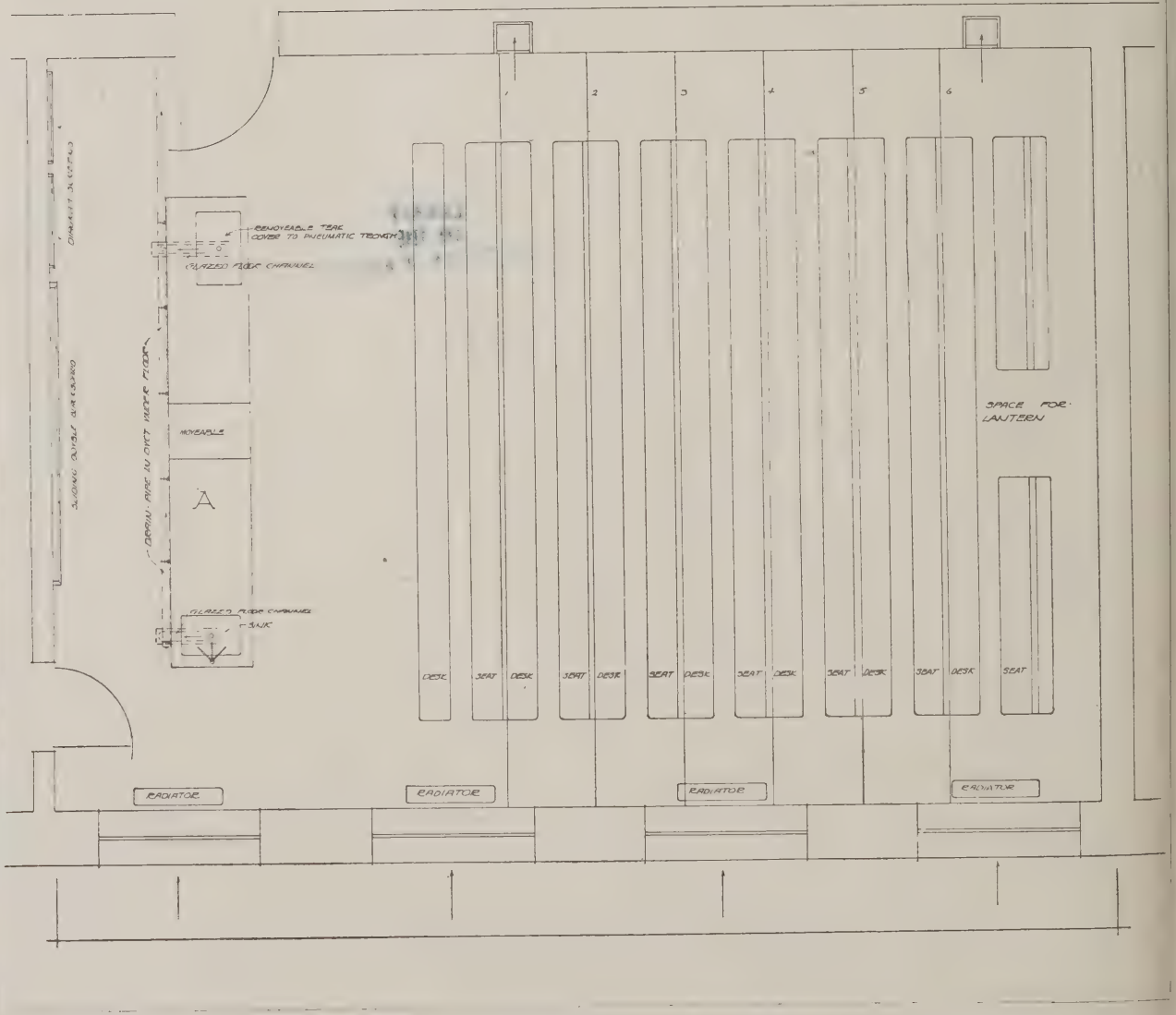
DRAWING No. XI

PHYSICS · LECTURE · ROOM

SCALE

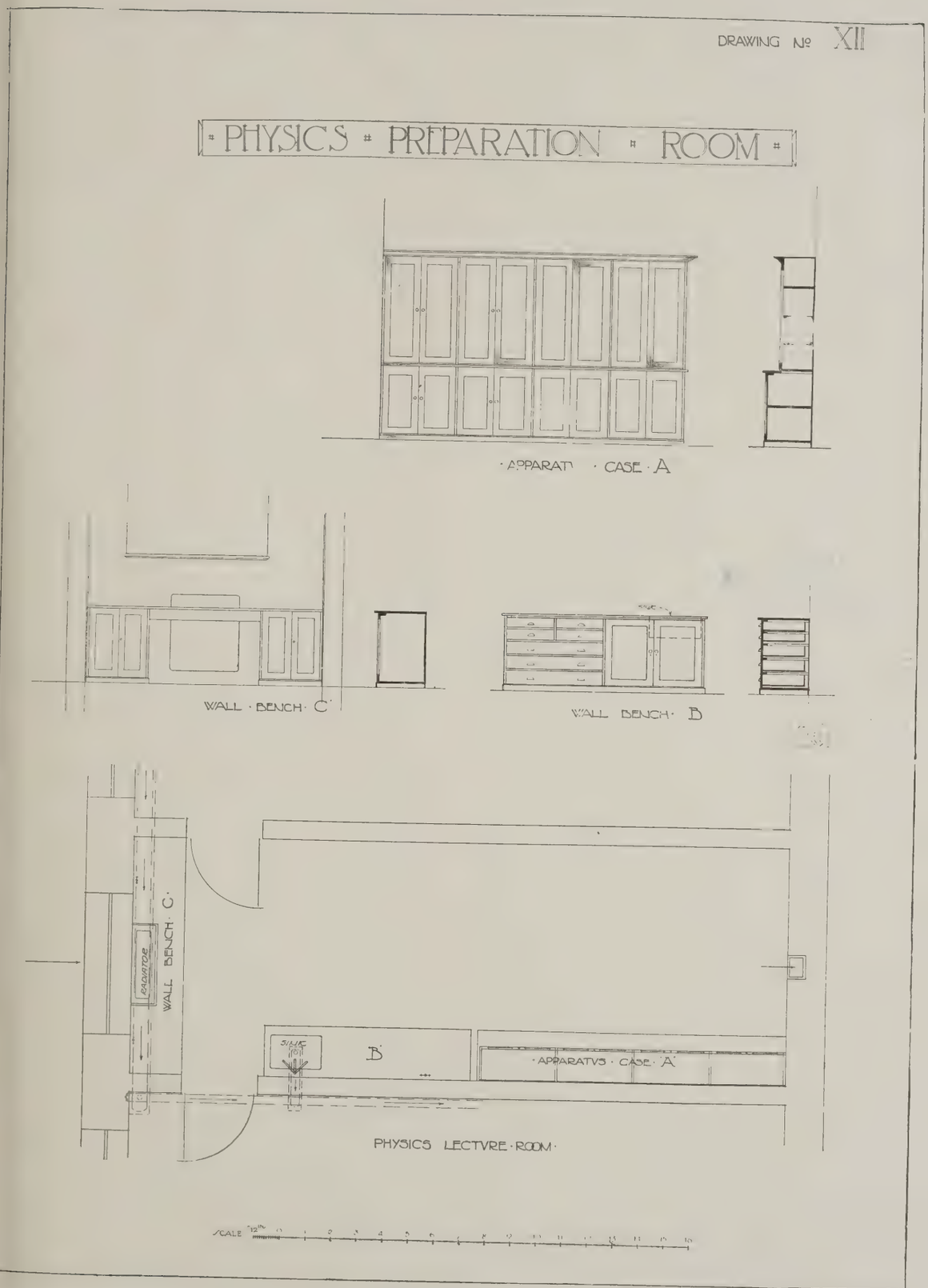


DEMONSTRATION · TABLE · A



SCIENCE AND TECHNICAL BUILDINGS. XV.—PHYSICS LECTU

IVOR JONES AND P



D PREPARATION ROOM, CARDIFF TECHNICAL INSTITUTE.
S. ARCHITECTS.

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An amateur plumber who has to twist a stop-cock at the bottom of a 5-ft pipe with a broomstick cannot be expected to know that he is only turning on more water."

"But all the woes and catastrophes of the amateur plumber pale beside the superficially simple job of replacing a tap-washer. The amateur plumber who has attempted to replace a tap-washer is a man who can flatly disprove that lie of scientists that water always finds its own level. No man who has ever witnessed the awful phenomena of a tap when its washer is off ever need travel to Niagara to witness the sublimity of the unleashed forces of Nature. The amateur plumber who attempts to replace a tap-washer can only make his will, anoint himself with such grease as Channel swimmers use for their ideals, divest himself of all clothing except a bathing costume and a life-saving waistcoat, and consign himself to Providence."

UBIQUE.

THE PLATES.

Concord House, Wandsworth.

THIS building has been erected for occupation by Messrs. Cresswell Ball and Co. with frontages to the High Street and York Road, Wandsworth. The portion facing the High Street forms part of a design for a group, but exigencies of the War required that the building should be restricted to the portion shown in the photographs. The elevation to the High Street has the lower portion faced with Portland stone up to the cornice over the shop windows. Above, the walls are faced with hand-made red bricks of varying tones; the stringcourses ring of Delft faience having a somewhat rough texture, and the frieze and cornice being in the same material, but coloured and very slightly glazed with soft browns, grey, and blue to the coved portion of the cornice. The frontage to York Road has Portland stone facings for the lower portion, and hand-made red bricks and faience above. The joinery to the shop windows and doors is in bass wood and oak, and above in deal painted a cream tone. The lobbies are paved with Greek green Tinos, Fleur de Pêche, and white Pentelikon marbles, and the staircases are finished with patent Portland stone. The ground floor showroom is partly panelled in pine and oak, with oak blocks for the floor. The remainder of the premises is used as show-and-workrooms for linos and furniture. Messrs. William and Edward Hunt, of London, were the architects, and Messrs. Garrett and Son, of Balham, the builders. The Delft faience was supplied by Messrs. A. Bell and Co., sole British agents for the makers at Delft; the facing bricks by Messrs. Ames and Hunter; goods supplied by Messrs. Waygood; gas fittings by Messrs. Whitehouse and Co.; and metal fittings and letters by Messrs. Yannedis and Co.

Conversion of Stable Building into a House at Wimbledon.

A stable and coach-house, substantially built some fifty years ago but possessing no architectural interest, occupied an excellent site close to although not facing Wimbledon Common. The owner, desirous of transforming it into a small dwelling-house, consulted Mr. Arthur Stratton, F.R.I.B.A., who has succeeded in solving the problem in a very interesting way, as may be seen from our plate. Practically the whole of the walling of the original building has been retained, and a new wing added containing the principal reception and bedrooms. Wood block and tile floors being preferred on the second floor, the stable paving provided a suitable foundation for them. The roofs were raised, the timbers and the old shaped tiles being re-used as far as practicable. In order to ensure uniformity of colour in the walling, the whole of the old and new work, except the chimney-stacks and wide loggia, was roughcasted. The conditions thus determined the prevailing characteristics of the house, while the client's requirements were carefully considered in the arrangement of the plans. The work of remodelling in all trades was satisfactorily carried out by Messrs. James Burgess and Sons, contractors, of Wimbledon.

Lead Grille over Radiator.

Radiators, necessary as they are, generally appear as an intrusion upon rooms where a scheme of decoration has been carefully studied. But there are ways of concealing them, and the method adopted by Messrs. Adams and Holden at the New King's College for Women at Kensington is particularly happy in its effect. The radiators have been set in recesses in the walls, boxed around at the front and covered by a very elegant lead grille (made by Messrs. Thomas Elsley, Ltd.). Our illustration shows how pleasant the result is.

Physics Rooms, Cardiff Technical Institute.

The physics lecture room is provided with seven rows of seats and desks in tiers, so that every seat is well within the view of the lecturer. The demonstration table is fitted with water, gas, and electricity, and provision has been made for an electric heater for drying electrical apparatus. The table is well supplied with a useful set of cupboard and drawers, and a large blackboard and lantern-screen complete a very comfortable lecture room. In the physics preparation room there is accommodation for the storage of apparatus and working benches. Electric power is supplied for the re-charging of cells, driving lathes, etc., for which ample space is provided. Messrs. Ivor Jones and Percy Thomas, of Cardiff, were the architects.

AUSTRALIAN PARLIAMENT BUILDING COMPETITION.

WE are informed by the Royal Institute of British Architects that the Government of the Commonwealth of Australia have decided against the further postponement of the competition for the Federal Parliament Building at Canberra. The Secretary of the Royal Institute of British Architects has received the following letter from the Office of the High Commissioner in London, dated September 18: "Sir,—With reference to the deputation which waited upon the High Commissioner from your Institute *re* the competition for the Federal Parliament House at Canberra, I am directed by the High Commissioner to state that having communicated by cable with the Commonwealth Government, he has now received a cablegram in reply as follows: 'With reference to your telegram of September 5, the Government, after careful consideration of the whole matter, including the objections of Victoria and British architects to approved resumption of the competition, considers it advisable to proceed owing to the fact that after the war the rebuilding of Europe will occupy the attention of British and Continental architects to such an extent that they will not be prepared to compete. Further postponement will only accentuate the difficulty, and meanwhile the large expenditure which has been incurred renders early occupation of the capital very desirable. The work will also provide employment for hundreds of Australians after the war.'—I am, Sir, Your obedient Servant,

(Signed) "R. MUIRHEAD COLLINS."

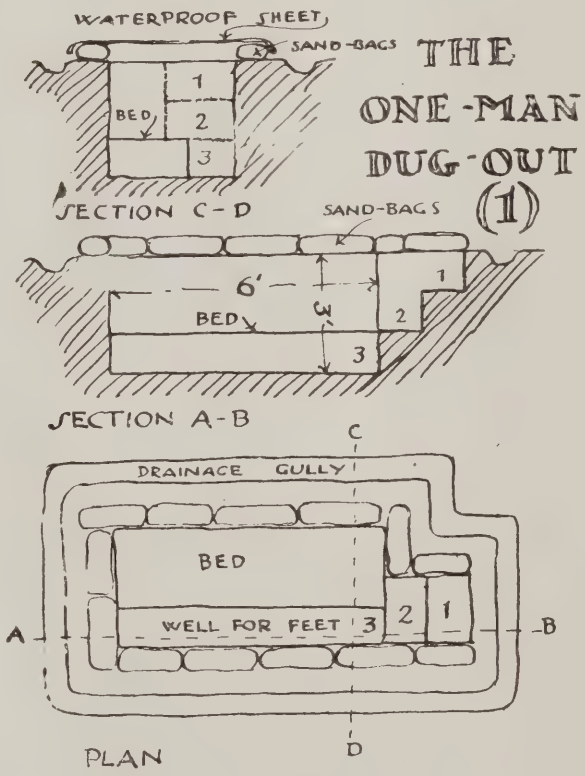
THE "ONE-MAN" DUG-OUT.

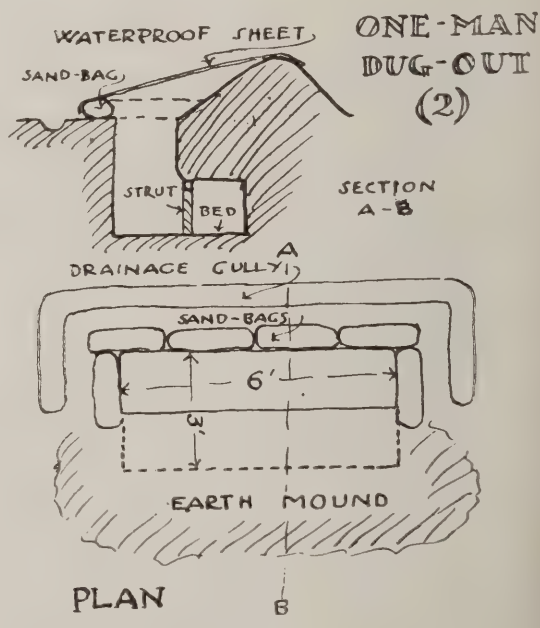
BY G. J. HOWLING.

THERE are many varieties and sizes of dug-outs, and some of the most interesting are those dug by "Tommy" himself for his own personal accommodation. In comparatively quiet times, when there is no advancing to be done, much energy is put into the construction of rest dug-outs—that is, of course, behind those parts of the line where suitable permanent billets are not available. In the Gallipoli campaign men had to shift largely for themselves. The area of ground captured was so small as to be constantly under shell-fire from the Turks (both from the European and the Asiatic sides), and consequently the construction of huts or any similar kind of exposed shelter was altogther out of the question, except with regard to hospitals and in one or two cases where good natural cover was obtainable. It became imperative, therefore, to dig dug-outs and to dig them in large numbers, for a big army, with all its paraphernalia and equipment, had to be accommodated within a strictly limited space. Gallipoli thus speedily became covered with a regular township of dug-outs. Some were large, holding as many as twenty to thirty men, while others were small, holding perhaps only twelve, or even fewer. All these dug-outs were prepared in the communal spirit, but there were others built on the individualistic plan. Occasionally, for some reason or other—overcrowding, disgruntlement, or perhaps the hermit instinct, inherited from some remote ancestor—a "Tommy" would wander off, armed only with pick, shovel, and a dozen or so sandbags, and in some comparatively quiet spot would dig his own private and particular dug-out.

Two examples of the "one-man" dug-out a shown by the accompanying rough sketches. Th are reproduced exactly from originals seen and liv in by the writer, and remarkably comfortable a weather-proof they proved to be. The first o consists, as will be seen, of a hole 6 ft. long, 3 wide, and, in one part (the well for the feet) 3 deep. It is entered by three steps down, and provic a "bed" 2 ft. wide. Around the top is placed single row of sand-bags, to which the waterpr sheet is fixed at night. Observe the drainage gully.

The second example is not quite so elaborate, a is rather less comfortable. This also is 6 ft. lo but 3 ft. wide only at the bottom, where the "be a small oblong compartment, is located beneath projecting mound of earth. Many experiments w





this kind of dug-out were made before perfec was achieved. The strut shown in sketch did form part of the original design, and it was included as being essential after several sleepers discovered by actual experience that unsuppo earth has a strong tendency to collapse. With earth mound behind, sand-bags in front and at sides, the whole covered in by waterproof sheets drained off by a gulley, this dug-out formed qu desirable resting-place. And when the occupant himself comfortably installed at night, wit lighted candle in a small niche at the back of head, plenty of light literature to read, and unlimited supply of cigarettes to smoke, he had hesitation in agreeing that "wilderness were Para enow."

SURREY COTTAGES.

SURREY is justly celebrated for the beauty and profusion of its cottages and farmhouses, simple buildings fashioned by unknown craftsmen who invariably employed local materials and in this way developed a strong vernacular tradition, untrammelled by extraneous or disturbing influences. The scenery of the county is, in many respects, remarkable for variety of interest, but economic development, in addition to natural charm, has had a great part in forming the character of Surrey's domestic buildings. In the sixteenth and seventeenth centuries Surrey and Sussex were the centre of the iron trade, which, flourishing with other industries of Tudor times, resulted in the creation of many villages and the consequent stimulus to building activity. Economy and utility are the dominating characteristics of these Surrey cottages, and therein lies the secret of their charm. It is perfectly true that some of them are faulty in design, and some even not well built, but the passing years and the random growths of nature have imparted a softening tone that alleviates and renders even their imperfections delightful. Excellence of proportion accounts in no small measure for that instinctive sense of pleasure which these cottages instil. The effect would be totally ruined if it were attempted to reproduce them on a larger scale. As someone has said, "it is wilfully curtailing our powers of design, and altogether too easy, just to take a cottage form and blow it out bigger, like a bladder, or a bigger house," and it might reasonably be added that so illogical a proceeding is sure to result in the destruction of the essence of all good design—that is, proportion.

Surrey is singularly happy in the charm of its brickwork and its half-timber construction. The cottages at Witley illustrated on this page display many of the features and qualities of the local style—mellow brickwork and typical casement windows thrust high up in the weather tiling beneath the eaves. Brickwork, it may be noted, was first used in Surrey exclusively for chimneys, but it gradually supplanted plaster and wattle for the more important function of filling the space between the timbers of framed houses, and by the time of Charles I. brick had become the customary building material. Thatch, as a roof covering, is rapidly becoming extinct. Roofs of stone slates are still to be found throughout the county, but it is improbable that many examples exist as originally laid. The tiled roofs so characteristic of the domestic architecture of Surrey are seldom original. Only in the later erections is work of this kind contemporaneous with the building. From the fifteenth to the seventeenth century roofs of wooden shingles or thatch were largely displaced by tiles, but it was only when tiles became more abundant that they were generally adopted.

In Surrey, as in most other counties, the use of slates is rapidly extending, and many villages lose much of their charm because, while the older cottages are tiled, the newer are covered with slates. Not that slates are necessarily unlovely; but their intrusion where tiles strike the dominant note disturbs the harmony or congruity of form, colour, and texture which lovers of the picturesque like to find unbroken in a village, especially in Surrey, whither the Londoner goes to get away from slate roofs.



COTTAGES AT WITLEY, SURREY.

THE DEPUTATION ON HOUSING.

Last week we gave a brief account of the deputation from the National Housing and Town Planning Council and other bodies interested in the subject which was received by Mr. Walter Long, the President of the Local Government Board, with reference to house and town planning work after the war, and more especially the need for making preparations to avert a possible crisis of unemployment in the building trade at the close of the war, by careful preparation of housing schemes. The following extended report will be read with interest: With Mr. Long were Dr. Leslie Mackenzie (of the Scottish Local Government Board), Sir Noel Kershaw, Sir Horace Monro, Mr. Hayes Fisher (Parliamentary Secretary to the Local Government Board), and Mr. Dickinson (chairman of the Housing Department of the Local Government Board). The deputation was as representative in its character as was the April Congress, which was attended by 400 delegates, representing local authorities in England, Scotland, and Wales, professional associations, building trades, employers' and workmen's trade unions, and many societies interested in questions of social welfare.

Councillor Harold Shawcross, chairman of the Council, submitted to the President a comprehensive statement of the case they desired to put before the Government. This called attention to the principal resolution passed at the Congress, viz.:

"That this Congress urgently directs the attention of the Government to the critical need for the provision of additional housing for the working classes, and in respect of the national interest and responsibility in the matter, urges upon the Government to set aside no less than £20,000,000 to make such advances to local authorities and other agencies as will enable them to provide houses at reasonable rentals, having regard to all necessary and equitable circumstances and conditions." Mr. Shawcross said the question had become a most pressing one owing to the failure of private enterprise to meet the needs, and reliance must be placed on local authorities to do the work.

Councillor S. Smethurst, Past President, National Federation of Building Trades Employers, said that 600,000 men had gone to the war from the building trade, and when they returned there would of necessity be a great deal of unemployment, and it would be far better for the nation to have these men employed.

Mr. David Gilmour, Lanarkshire Miners' Association, represented the views of the trade unions of Scotland. He spoke of the large number of houses in Scotland where there was a total absence of proper accommodation and sanitary conveniences, where families of seven and eight persons lived in a single apartment, and where births and deaths took place in the same room. That was a state of affairs which should be altered as soon as possible.

County Councillor George Fraser, Lanarkshire, said that it had been proved in Scotland years before the war that the housing problem there could not be solved by private enterprise, nor could it, in many cases, be solved by local authorities.

Mr. John Robertson, National Union of Scottish Mine Workers, said as far back as 1842 the housing conditions of the miners were strongly condemned by Commissions as unfit for human habitation, but not much had been done up to the present to improve matters. Speaking of the conditions under which a mining population was housed, he gave an instance of a village in Ayrshire, where there were 227 houses with only one ash-pit; 50 per cent. of the people had no closets; there were no washing-houses, and the household coal was stored under the bed. Taking the town of Hamilton, in Lanarkshire, he said the population was 38,000. The acreage occupied by dwelling-houses was only about 300, while connected with property adjacent to the town there were 2,500 acres of pleasure ground. Of the population, 27,000 lived in houses of one and two rooms.

Councillor John Stewart, Glasgow City Council, said he attended to represent Glasgow, Edinburgh, Dundee, and Greenock. He said these places were in a similar position to Glasgow with regard to the shortage of houses. In Glasgow there was a house famine. The number of unoccupied dwelling-houses of rentals of £20 and under had decreased from 20,356 in 1913-14 to 3,763 at Whitsun-day, 1916, and it had been estimated by the health authority that there were 10,000 insanitary dwellings in Glasgow. It would be seen that that was a very serious state of affairs, which obviously cast increased expenditure upon the public health authorities. The scarcity of houses fit for human habitation stultified the efforts of the corporation in exercising their powers, and was a constant menace to the health of the community. If the corporation enforced their powers for closing these houses, it would only accentuate the difficulty. They begged the Government not to shirk their duty in this matter.

Mr. C. T. Ruthen, vice-chairman, South Wales Garden Cities and Town Planning Association, said the housing problem in South Wales was as serious as, if not more serious than, in any other part of the country. There were thousands of houses in which the beds were never cold, being occupied during the whole of the twenty-four hours by different people.

The substance of Mr. Long's very sympathetic reply appeared last week.

AN INTERNATIONAL SYSTEM OF WEIGHTS AND MEASURES.

It will be remembered that at the summer meeting, at Brighton, of the National Federation of Building Trades Employers a resolution was passed in favour of adopting the metric system. As the subject is therefore of acute interest to the building trade, the following observations upon it, addressed by Mr. E. A. W. Phillips, M.Inst.C.E., M.C.I., to an engineering contemporary, may be usefully reproduced:

The report of the Decimal Association for 1915 recommends the abolition of all British units and standards of weight, measure, and currency, with the exception only of the pound sterling and the florin, in favour of the metric system, and a decimal currency based on the above-mentioned two coins.

The association claims that civilisation demands the sacrifice, in order that the British may fall into line with European and other countries. Our enemies, Germany, her allies and sympathisers, are also metric, and as they have destroyed the bulk of the Allied factories and machinery for peace manufactures on the European continent, the advice seems doubtful in its wisdom. I do not think very many British desire to do business specially with the Huns after the war, and that is chiefly what the adoption of the metric system would bring about.

Further, it is very well known that in all metric countries where the metric system is obligatory, quite 80 per cent. of the population still cling to their old weights and measures, with the disadvantage that these being illegal, fraud is with difficulty properly punished. Human need must be great to impel respectable citizens to use "obsolete" units, and this fact alone is sufficient to condemn the exclusive use of decimals in civil life. Men and women must have their halves, quarters, eighths and sixteenths. It is a vital necessity of existence.

I claim to have succeeded in penetrating the "mystery" of the British system. Not that the task was very hard. It called for some concentrated effort and patience with a trifle of imagination, that is all. I find the British system, at present in great confusion and difficult to work with and learn, can be reduced to perfect harmony and order under three scales, which I call the Tripod, because by comparison with the one-legged Decimal System they offer the stability and utility of a tripod. The three scales are based on Gunter's chain, a very ancient measure, introduced historically into Britain with the Belgic yard ("Encyclopædia Britannica") about the third or fourth century. The chain, as is well known, is divided into 100 links; and the Belgic yard is five of these links = 39.6 in. The cubic Belgic yard of water at the freezing point weighs exactly one ton of 2,240 lb. This is the British decimal system (B.D.S.), which, in its way, is a perfect a decimal system as the metric system is. The same, or similar, names and notation can be used throughout. Further, all metric constants and formulæ can be used without alteration and correction in the B.D.S. An architect or engineer can read off the B.D.S. units at once from a French drawing, and be entirely sure of safety, good proportion, and accuracy in doing so. He can work out calculations and prepare designs in the B.D.S., employing either French or British data, and the results will be equally correct and safe in either system.

The three scales are obtained by dividing the chain into ten, eleven, and twelve parts, the halves being respectively the metre, the yard, and the Indian gudge. The last is the duodecimal scale, and can be made the basis of a duodecimal system as wonderful and accurate as the decimal system for the use of those who prefer to calculate in twelves rather than in tens.

Your readers will see that we possess two complete scales for calculation and design, and one common or ordinary scale for practical uses. We can design in the metre and decimals, or in the gudge and duodecimals, and very rapidly and easily convert the results into ordinary units, the pound, the foot, the inch, the gallon, and so on. In fact, there never existed a wonderful and useful a system as the Tripod, which leaves the metric system entirely behind. We can prove that the tripod is over 4,000 years old—older than the Great Pyramid—and that the French metre is a modern approximative substitute for an accurate earth metre more than twenty times as old.

I have written a book on the subject, "British Trade and the Metric System" (Mr. Francis Griffiths, publisher), a copy of which is in the Institution of Civil Engineers, and another in the Concrete Institute. I mention this as the net price is 5s., which may be more than some of your readers can afford in war time.

THE INDUSTRIAL SITUATION AFTER THE WAR.

A "Memorandum on the Industrial Situation After the War," which has just been issued, price one shilling, by Messrs. Harrison and Sons, St. Martin's Lane, W.C., is the result of an investigation into the tendencies, prospects, and problems of British industry in the new conditions created by the war, carried out by a group of men connected with industrial, economic, and political circles, who were brought together at the instance of the Carton Foundation.

It is designed to give, in the first place, a "bird's eye view" of the industrial situation of to-day and to-morrow. It aims at sketching on broad lines the main features of the situation—the difficulties of demobilisation and replacement, the necessity for capital renewal and increased production, and the possibility of labour unrest arising out of the changes made during the war—in such a way as to give to each element in the problem its due place, relation, and perspective, and to define the boundaries of the problem as a whole.

The Memorandum has already been widely circulated privately, chiefly among large employers of labour, trade union officials, and public men interested in social and economic questions. Its reception by men of widely different parties and standpoints has been, we are informed, very favourable, and there is a general agreement that its analysis of the probable situation at the end of the war is comprehensive and sound. A large number of criticisms and suggestions have been received from various sources, and the Memorandum has been carefully revised in the light of the experience thus obtained.

In the synopsis four guiding principles are thus set forth: (*a*) The necessity of increased efficiency in production. (*b*) Increased efficiency must be sought for in better methods and organisation, and in a new attitude towards industry. (*c*) These reforms can only be accomplished by the co-operation of Labour, Management, and Capital. (*d*) In order to secure this co-operation, Labour must have a voice in matters relating to its special interests. It is added that "In dealing with an immediate problem we must work with the materials at hand. Gradual progress achieved by co-operation is better and more certain than revolutionary methods. Demands made on all classes and the necessity of meeting them are discussed. The State cannot move in advance of public opinion."

This booklet, dealing with the situation summarily and luminously, can only be regarded as a most important contribution towards the solution of the great problems arising out of the war, and it should have the widest possible circulation.

PROSPECTS FOR WOMEN ARCHITECTS.

In answer to a correspondent who had requested information on this subject, the Editor of the "Queen" writes: Speaking generally, there is a disposition to look favourably upon women architects. Many people say that they expect women to have special consideration for all matters appertaining to domestic comfort and the economical use of space. But for the war, we think that women architects would get a good many commissions for the designing of country cottages and of houses for people who live on the outskirts of towns. When the war is over there may be much work in the building trades owing to present stoppages, but one ought not to count on this prosperity continuing for long. For, apart from the war, there are many conditions which are unfavourable to the profession of architecture. The building of churches, which brought wealth to many architects during the latter half of last century, does not now proceed at all rapidly. Consequently, the men who might have been engaged in ecclesiastical work are now dependent on orders for public buildings or private houses. Many big elementary schools have lately been built, and the tendency is to say that public money ought to be spent less on bricks and mortar than on the salaries of teachers. Then, in the domestic field we must notice that the vast majority of houses are put up by builders who are their own architects. Many, even, of the very big blocks of flats and offices, formed largely of iron girders and concrete, have no architectectural pretensions, and if they are comfortably planned within they satisfy their occupants. For all these reasons the prospects of an architect beginning her training now are not of the brightest. Still, it must be remembered that such a thorough training as an architect necessarily undergoes is never wasted, and a girl who does not get many orders for planning important buildings may still do some cottage and villa planning. Or she may turn to the more decorative side of the work and evolve new ideas for furniture and fittings. Or, again, she may turn to lecturing or writing about architectural subjects. If you would care to consult some established women architects, we would refer you to Miss Annie Hall, Member of the Society of Architects, 5, Verulam Buildings, Gray's Inn, W.C.: or to Mrs. Elspeth Spencer, 22, Bloomfield Road, W. Pupils are usually articled for a period of from three to five years.

[We do not, of course, assume responsibility for these views, which are here reproduced simply as an item of professional interest. Ed. A. and B. J.]

THE BOARD OF TRADE BUILDING TRADE BAROMETER.

In the "Labour Gazette," for September, the report for the month of August states that private building work remained quiet, and many men, especially plasterers and masons, were still working in non-building occupations. Men remaining in the building trades, however, were generally well employed, partly owing to Government requirements, and overtime on war work was frequently reported. The general percentage of State insured workpeople unemployed in all building occupations was 0.78, compared with 0.88 in July, and 1.50 a year ago. For plasterers the percentage was as high as 2.9, but for painters, plumbers, navvies and labourers it was below 0.7.

The percentage of unemployed for all occupations taken together was 0.7 or less in all divisions, with the exception of London, where it was 1.5, and of Ireland, where it was 3.1. For every occupation the highest percentage unemployed was in Ireland, and the next highest was in London. The percentage for plasterers was as high as 6.4 in Ireland and 5.4 in London, while for masons the corresponding figures were 7.3 and 3.7 respectively. Apart from these two occupations the percentage unemployed never exceeded 0.7, except in London and Ireland, and with bricklayers in a few districts.

Compared with a month ago the percentage of unemployed showed a slight increase with masons in most districts, and a slight decrease with carpenters and labourers, other occupations showing little general change. In four districts the general percentage unemployed remained stationary; in six districts there was a decrease of 0.1 or 0.2 per cent.; and in London there was a decrease of 0.4 per cent.

As compared with a year ago the percentage unemployed showed, with a few exceptions, a decrease in every occupation in every district.

OBITUARY.

The First Architect V.C.

Last week's list of men to whom the Victoria Cross has been awarded included the name of Temp. Capt. Eric Norman Frankland Bell, R. Inniskilling Fusiliers, the first architect to receive this coveted distinction, who was killed in action in France in July. Further reference will be found in the editorial note on page 152 of this issue. A portrait of Captain Bell, who had contributed drawings to this Journal, appeared in our issue of July 19.

Mr. Edward Healey.

The death has taken place at 145, Wilmer Road, Heaton, Bradford, of Mr. Edward Healey, head of the firm of Messrs. T. H. and F. Healey, architects, of Bradford. Mr. Healey, who was in his seventy-fifth year, was the son of the late Mr. Thomas Healey, one of the founders of the firm—originally Messrs. Mallinson and Healey—which during its more than seventy years of existence has been responsible for a great number of important buildings in Bradford. He leaves two sons—Mr. F. H. Healey, who was lately associated with him as a partner in the business, but is now with the Army, and another son who is in Canada—and one daughter, Miss Mary Healey, who is well known locally as an artist.

Mr. Joseph Richards.

Mr. Joseph Richards, of The Waldens, Perranarworthal, who has died at the age of eighty-two, was formerly a partner in the firm of Messrs. William Bell and Sons, builders and contractors, of Saffron Walden and Cambridge. Many years ago he was manager of the Saffron Walden branch of the business and afterwards went to reside at Cambridge as manager of the branch there. He was a shrewd business man, and was manager of the firm during the erection of the Friends' School and the Town Hall at Saffron Walden, Foster's large flour mills near Cambridge Railway Station, and the Clergy Training School in Jesus Lane, Cambridge. He retired from business some years ago and went to live near his native place in Cornwall.

A Builder's Will.

Mr. Thomas Lumsden, of Danesfield, Bede Burn Road, Jarrow, builder and contractor, left estate of the gross value of £10,807 17s. 10d., of which £10,767 14s. 1d. is net personalty, all of which he left to his son, Mr. Robert John Lumsden, of Danesfield, to whom administration of his estate has been granted, the testator having appointed no executor of his will, which bears date August 31, 1889.

NEWS ITEMS.

A War Memorial Window.

A stained-glass window has been placed in Aislaby Church, Yorks, to the memory of Lieut. Alan Pyman, who fell at Givenchy in June, 1915.

New Co-operative Premises in Birmingham.

New central stores of the Birmingham Industrial Co-operative Society, Ltd., High Street, erected at a cost of £100,000, have been opened. The architect is Mr. F. B. Andrews, of Birmingham.

Nurses' Home for Blackburn.

The Blackburn Guardians' Building Committee propose to inform the Local Government Board that amongst the various works which they contemplate undertaking after the war is the building of a nurses' home, at a cost, approximately, of £6,000.

Church War Memorials.

A service of dedication of a font and stained-glass window was held on Wednesday last in St. Peter's Church, Glentham, in memory of Captain Sir Montague Aubrey Rowley Cholmeley, 4th Batt. Grenadier Guards, who fell in action at Festubert on Christmas Eve, 1914. The font and window were given by Lady Cholmeley.

Rendering a Reservoir Watertight.

The British Home Government is not alone in assuming control of large undertakings. We hear that new refrigerator works and a large reservoir with a capacity of one million gallons have been constructed at Wyndham, Australia, for the Australian Government, and we are informed that the reservoir was rendered with Pudloed cement to ensure its being perfectly watertight.

Bell's United Asbestos Co., Ltd.

The directors of this company have declared an interim dividend on the ordinary shares of 1s. per share, less income tax (being at the rate of 10 per cent. per annum) on account of the profits for the current year. The dividend will be paid on October 16 to shareholders on the register on October 2, and the ordinary share transfer books will be closed from October 2 to 16, both dates inclusive.

Scottish Veterans' Garden City Association.

The Scottish Veterans' Garden City Association, which was formed over a year ago to provide housing, training, and employment for Scottish soldiers and sailors disabled in the war, has secured ground from its president, the Earl of Wemyss, and is proceeding with the erection of cottage homes and workshops. Committees have been formed throughout Scotland to arrange local schemes.

Blackpool Improvement Schemes.

Several important new projects are in contemplation at Blackpool. A sub-committee of the Corporation have decided to recommend that a Bill be promoted in Parliament at an early date authorising the extension of the borough boundary in a northerly direction, so as to include the urban district of Bispham-with-Norbreck; also the construction of a new promenade a mile and a quarter in length, linking up the present promenade at South Shore with St. Anne's boundary, and the construction of open-air baths on the foreshore at South Shore and North Shore. The plans for the promenade extension at South Shore, which is estimated to cost about £60,000, include the provision of a 40-ft. wide carriage drive, a tramway track 20 ft. in width, an island footpath 10 ft. wide, a grass plot 25 ft. wide, and a 40-ft. wide promenade on the seaward side for pedestrians, with a 10-ft. footpath on the easterly side. It is proposed to construct two large bathing pools, each 100 yd. in length by 40 yd. wide—one on the beach south of the Victoria Pier, and the other at the foot of the cliffs near Uncle Tom's Cabin—at an estimated outlay of £16,000 in each case.

The Quebec Bridge Disaster.

At the inquest following the bridge disaster there Mr. Montserrat, chief engineer of the Bridge Commission, stated that the steel casting supporting the span during the hoisting operations had broken owing to a flaw in the casting, although the piece had borne the weight of the span for six weeks. Outside engineers agreed that the plan adopted for raising the span was the safest. Twelve lives were lost in all.

Chester-le-Street Housing Scheme.

The Chester-le-Street Rural District Council has formed committees to consider the best method of establishing day nurseries throughout the district for the benefit of the children of women war workers and for schemes of housing, road-making, and the provision of sewers after the war. It was decided to send a deputation to interview Mr. J. W. Taylor, M.P., Mr. T. Wing, M.P., and Mr. A. Williams, M.P., on the relations between the council and the Local Government Board in connection with the houses the council has built at Pelton.

Proposed Additions to a Poorhouse, Dundee.

The Local Government Board has recommended Dundee Parish Council to add a block to Ashcliffe House for probationary skin and infectious cases. At a meeting of the Dundee Poorhouse Committee a letter was read from the Board intimating that they were prepared to give accommodation at the House for seventy children, provided that as soon as circumstances permitted an additional block for skin and infectious cases would be erected, and that such additional sanitary arrangements were provided as the Board might require.

Town-Planning in East Birmingham.

At the July meeting of the Birmingham City Council it was decided, on the recommendation of the Town Planning Committee, to apply to the Local Government Board for authority to prepare an amending scheme in relation to a portion of the scheme of town planning for East Birmingham. The object the Council desired to achieve was that certain proposed new roads should be made to fit in with roads proposed to be made in the adjoining town-planned area of North Yardley. The application was subsequently made, and the Local Government Board's authority for the preparation of the scheme has now been received by the Town Clerk.

Wages in Glasgow.

Professor J. M. Irvine, K.C., who acted recently as arbiter in the wages dispute in the building trade, has decided that the rate of wages of labourers employed in assisting masons and bricklayers in Glasgow and neighbourhood shall be increased by 1d. per hour, bringing the standard rate up to 8½d. per hour, which is the highest ever paid to labourers in the building trade in the Glasgow district. The Workers' Union, on behalf of the labourers, made application some time ago for an increase of wages. The demand was refused by the Master Masons' Association and the Master Builders' Association, and it was agreed to submit the matter to arbitration. Professor Irvine heard parties in Glasgow on September 14. The case for the men was stated by Councillor George Kerr, divisional organiser of the Workers' Union. The decision issued by the arbiter is to the effect that from August 1, 1916, the standard rate of wages of labourers attending masons and bricklayers shall be 8½d. per hour, being an increase of 1d. per hour on the rate of wages paid prior to that date. The provisions of the working agreement with respect to overtime are to remain unaltered. No change is to be made on the date at which the working agreement expires annually, or on the date at which notices of suggested alterations on the agreement are to be lodged. The claims made by the men with regard to travelling and country allowances were withdrawn. Professor Irvine has also issued his decision in connection with the wages claim of labourers employed in the reinforced concrete trade. The wages of these men have been increased by 1d. per hour, making the rate 8½d. per hour, the advance to take effect from August 1.

Business Amalgamation.

The Limmer Asphalte Paving Company, Ltd., and the Trinidad Lake Asphalte Paving Company, Ltd., are now carried on as one concern under the name of the Limmer and Trinidad Lake Asphalt Company, Ltd. The combined company will be responsible for the completion and fulfilment of all work in progress and contract obligations that have been undertaken by either company. Mr. H. D. Blake, managing director of the Limmer Asphalte Paving Company, Ltd., and Mr. J. M. Bond, director and secretary of the Trinidad Lake Asphalte and Paving Company, Ltd., will both be actively concerned in the management of the combined undertaking, of which they are directors.

A New Church Hall at Scarborough.

By the generosity of an anonymous donor, the parish of St. Saviour's, Scarborough, has acquired a new church hall, which has been built at the corner of Gladstone Road and Norwood Street, and has cost between £3,000 and £3,500. The building consists on the ground floor of a hall capable of seating about 400 people, with large retiring rooms. There are rooms on each side of the principal entrance for use either as classrooms or for ladies' and gentlemen's cloak rooms. On the first floor there is a gallery across the west end of the hall, and opening off this gallery are club and reading rooms so arranged that they can be used either in conjunction with the hall or separately as required. The building is of a bright red local brick, with dressings of stone from quarries near Roche Abbey, and the roofs are covered with thick greyish-green Westmorland slates. The contractors were mostly of Scarborough, namely: Mr. J. F. Wilson, brick, stone, and plaster work; Mr. T. Wilson, carpentry and joinery; Mr. W. Dodgson, slating; Mr. J. R. Sleightholm, plumbing; Mr. J. F. Newton, painting; Messrs. Walker and Hutton executed the electric lighting; Mr. H. Pickup supplied the new iron railing and gates round both the church and the hall. Messrs. Richardson and Co., of Darlington, supplied the heating installation. Mr. W. H. Brierley, of York, was the architect.

RIGHTS OF LIGHT AND AIR.

The following interesting article ppears in the "Journal of the Society of rchitects" for October: Our contemorary THE ARCHITECTS' AND BUILDERS' OURNAL has done useful work in again rawing attention to the necessity for some eform in the law relating to light and air. he reference made to Mr. W. Kaye arry's suggestion for the formation in ublin of a tribunal similar to that which xists in Scotland, reminds us that the roposal is not a new one, and it may be teresting to see what steps have been ken already in the direction indicated.

In 1898, a deputation from the Society Architects waited upon the Lord Chanllor (the Earl of Halsbury), and prented a petition praying that a Parliaentary Committee might be appointed look into the present law in regard to ncient Lights, with a view to its amendent. The gist of the proposal was for e establishment of a means to enable e building owner to ascertain in an peditious and inexpensive manner and his own cost the limits within which he uld erect his building without infringg the rights of adjacent owners. It was ggested that the Building Acts Comittee of the L.C.C. should be the ibunal for this purpose, with the ribunal of Appeal under the London uilding Act as a final court of appeal. his proposition being eminently sound principle and of a practical nature was vourably commented on by the profesonal and lay press, and the society was edited with having taken a bold and actical step in the right direction.

Shortly afterwards, Mr. David Lyon, rk to the Dean of Guild Court, Edinrgh, read a valuable paper before the ciety on the powers of the Dean of uild Court, in the course of which he mphasised the important difference tween the law of England and of otland on this question of light and air, owing that in Scotland, if any building to have a servitude of light and air over adjacent building, it must be expressed the agreement, it cannot be acquired by age as in England. One of the functions the Dean of Guild Court is to enable ilding owners to ascertain their powers d limitations before committing themves to any building scheme.

In 1900, the R.I.B.A. formed a Joint mmittee with the Surveyors' Institun, to take steps to effect an alteration the existing law relating to Ancient ghts. Their deliberations resulted in presentation to Parliament of the cient Lights Bill, in 1903. This Bill s a welcome attempt at some badly ded reforms, and it embodied inter a the principle of the servient owner nishing the dominant owner on nand with such information as would e a clear idea of the extent of the proed building, with a view to avoiding sequent litigation. This proposal was ilar in principle to that advocated by Society of Architects.

About the same time a paper on this ject was read by Mr. E. K. Blyth, at rovincial meeting of the Incorporated v Society at Weymouth, in which he nted out some anomalies of the law recommended the adoption of the tch and American rule in lieu of the glish one.

In 1901 the case of the Home and Colo- Stores v. Colls attracted much atten-, as it involved the question as to ther the owner of ancient lights is er English law entitled to the whole of the amount of light which has ever reached his windows, or to only such an amount as is sufficient "according to the ordinary notions of mankind."

After prolonged litigation the Court of Appeal accepted the wider interpretation of the right, but the House of Lords subsequently reversed this judgment and restored that of the late Mr. Justice Joyce in favour of the more restricted right. The Society of Architects considered this judgment of such importance that it had the full report printed for the information of the members, and showed its sense of the late Mr. Howard Colls's public spirited action by presenting him with a testimonial of appreciation of his service to the community.

While the result of Mr. Colls's successful action settled to some extent the principal point on which it was fought, it did not affect the proposal under consideration, viz., that of a court of settlement of any points of dispute before the building is commenced.

The amount of money spent, we might say wasted, on light and air cases is enormous, and in some instances has far exceeded the value of the property concerned, and probably has resulted in the financial ruin of a number of people. It seems to us to be absolutely scandalous that such a state of things should be allowed to continue when by the adoption of the Society's original proposal it would be possible without creating any fresh machinery to amend the law in the direction indicated.

The building industry is heavily handicapped in many ways at the best of times, and the consequences are reflected in the architectural profession.

The present time is not one for Parliamentary propaganda, but is eminently the time for the preparation of an active campaign in the near future. The matter is one which should not be left entirely to the professions and industries most closely concerned. It is one of public interest and is a question which should be taken up and ventilated by the Press generally, particularly so at the present time when there is a great talk of economy in all directions. From this point of view alone an amendment of the law in the direction indicated would result in the saving of many thousands of pounds, and in the further development of one of the largest and most important industries in the country.

WAR DESTRUCTION IN FRANCE.

A vivid idea of the amount of damage caused in modern warfare is obtainable from the report on the destruction of buildings in 754 communes in France, by M. Malvy, French Ministre de l'Interieur. It will be understood that the report does not include 2,554 communes still occupied by the enemy. The departments comprised in the report are the Nord, Pas-de-Calais, Somme, Oise, Seine-et-Marne, Aisne, Marne, Aube, Meuse, Meurthe-et-Moselle, and the Vosges. The number of communes which have suffered by the war as regards the destruction of buildings is in the above departments 754, divided up as follows: Nord, 23; Pas-de-Calais, 71; Somme, 34; Oise, 50; Seine-et-Marne, 35; Aisne, 51; Marne, 258; Aube, 2; Meuse, 59; Meurthe-et-Moselle, 109; Vosges, 53. As regards the 754 communes in which the buildings have been totally or partially destroyed, the number of buildings which have suffered by the war is 42,263, of which 16,669 are completely destroyed, and 25,594 partially only. Among the departments which have most suffered may be mentioned the Marne, with a total of 15,106 houses destroyed, of which number 3,500 completely; the Pas-de-Calais, with a total of 13,450 houses destroyed, of which 6,660 entirely; the Meurthe-et-Moselle, with 4,930 houses destroyed, of which 1,690 entirely.

LONDON'S WATER SUPPLY.

The annual report of the Metropolitan Water Board for 1915-16, just issued, shows that the net water rental received by the board during the year was approximately £2,929,221, or an increase of £7,305 over 1914-15. The board's supply —direct and in bulk to adjacent undertakings—was 89,264.2 million gallons of water, or a daily average of 243.9 million gallons. The grand total volume is equivalent to 398.5 million tons of water. The Thames furnished 57.6 per cent., the Lea 25 per cent., and the wells, etc., 17.4 per cent. of this total.

The total estimated population directly supplied by the board at the close of the year was 6,773,105, and the daily average supply per head was 35.76 gallons, compared with 36.08 gallons in 1914-15.

The board's staff numbers 918 officers (including 57 women), 3,374 workmen and others on weekly wages, and 139 service staff on weekly wages, at April 1, 1916. These figures include men on war leave, whose names accordingly remain on the pay sheets.

Taking the end of the year, December 31, 1915, as a convenient date for showing the results of voluntary enlistment for naval and military service, it may be briefly stated, says the report, that out of the total of 2,294 men of military age on the clerical and manual staff, 2,211, or 96 per cent., offered for enlistment. Of these 813 had actually joined the colours, 1,055 had attested under the Derby scheme, and 343 were medically rejected.

A "SIMPLEX CONDUITS" ROLL OF HONOUR.

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Bodfish, H., Warwickshire Regt., foundry, France.
Ireland, J., Warwickshire Regt., enamelling shop, France.
Mousley, E. A., R.A.M.C., stores office, Egypt (died of wounds).
Parker, G., Warwickshire Regt., fittings shop, France.
Robbins, S., Worcester Regt., fuse department, France.
Swarsbrick, D. H., Warwickshire Regt., purchasing department, France (Somme).
Fowkes, P. F. Royal Engineers, Manchester office (died training at home).
Lock, W. A., R.F.A., general office, France.
Liddiard, B., Warwickshire Regt., general office, France (Somme).

Wounded.

Bill, N., Warwickshire Regt., heating department France.
Birtley, A., Warwickshire Regt., purchasing department, France.
Boulton, C., Wilts Regt., general office, France (Loos).
Baird, G., Scottish Horse, Glasgow office, Gallipoli.
Cain, J., Warwickshire Regt., foundry, France.
Quinney, J., R.F.A., fuse department, France.
Raison, F., Lancs Fusiliers, forwarding department, France.
Gough, M., R.G.A., foundry, France.
Aldrich, Warwickshire Regt., foundry, Gallipoli.
Howell, W., Middlesex Regt., foundry, France.
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PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

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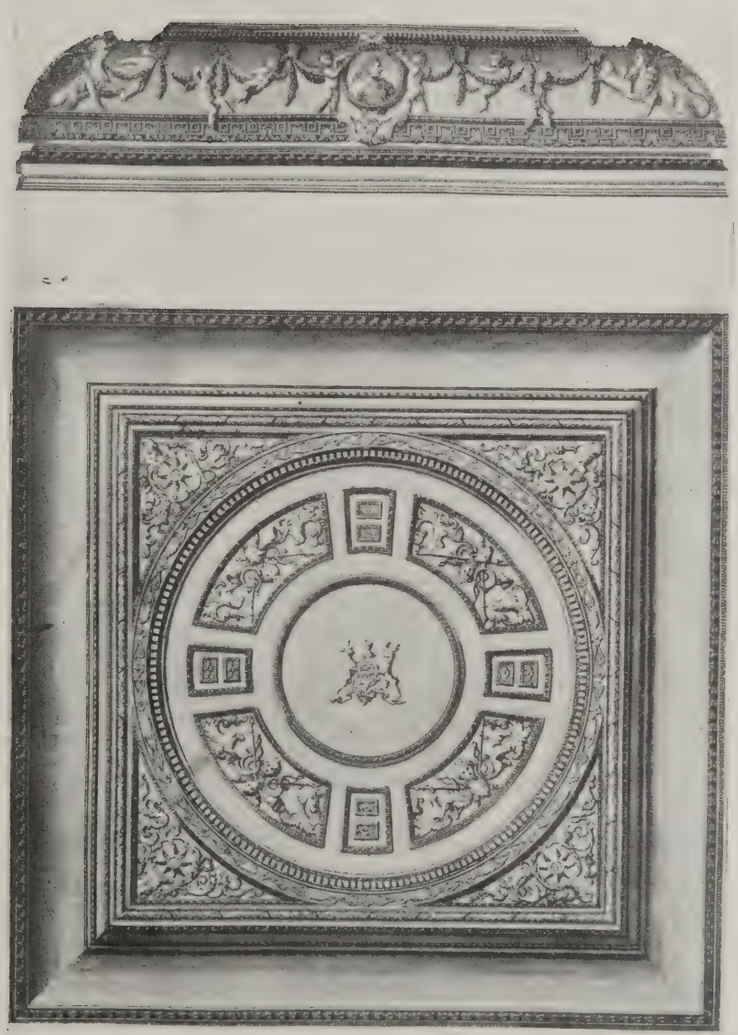
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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, October 11, 1916. Volume XLIV. No 1136.



DESIGN FOR A CEILING, BY WILLIAM KENT.

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 11, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1136.

EDITORIAL.

HOW much is a given plot of land worth? In one place it might be dear at a penny a unit, and in another dirt-cheap at a pound. Who or what is to determine its value is just now an extremely interesting question. Mr. H. G. Chancellor, M.P., in a letter to the "Daily Chronicle," assumes that "the first element in cheap housing is cheap land and plenty of it." He also contends that there is a real as distinguished from a monopoly price, and that the holding-up of suitable plots, or the holding-out for exorbitant prices, will greatly complicate the housing problem. Price, he foresees, will be inflated by the competition for land, and consequently building will be restricted and rents will be high. He holds that the price paid on compulsory purchase ought not to exceed the value registered on the valuation roll, which could quickly be brought up to date. His great remedy, however, is to get the land quickly by other means than costly compulsion—he would prevent its being held up. "This can be done by the simple and natural process of taxing and rating it on its actual value, irrespective of its present use or non-use. Twopence, or even a penny, in the pound on the registered capital valuation in the Government's possession would make unused and under-used land so expensive a luxury that owners would either build houses of the kind required or be eager to sell."

* * * *

It is to be supposed that in such conditions the eagerness to sell would hardly be met by a commensurate eagerness to buy, and the unfortunate owners of unmarketable land would then be in an unenviable plight. It may be safely assumed that they would be sufficiently numerous and influential to resist successfully any such attempt to penalise the possession of derelict land. This was the rock on which Henry George's single-tax system was wrecked; nor can it be said that the recent taxation of land values justifies, by its effects on building, the confidence with which Mr. Chancellor anticipates amelioration from an extension of the system. His proposals are thus summarised at the conclusion of his letter: "First valuation, then taxation and rating on value rather than on use; then, and not till then, subsidy if free competition fails." Such a tentative and tedious handling of a problem that should be solved with the utmost celerity is too Fabian for the urgency of the occasion. Housing cannot await the results of a series of roundabout experiments. Action must be direct and immediate, whether or not it involve compulsion, subsidy, or any other expedient that is obnoxious to doctrinaires. Any land that is particularly wanted for housing must be yielded at a fair price, and setting aside the problem of how the money is to be raised, the only real difficulty with respect to the land is that of ascertaining the fair price, and it would be well to concentrate on that single broad issue, leaving untouched for the moment the refinements that can afford to await deliberation.

* * * *

That tall chimneys have many admirers has been made obvious by the comments on the article on "Nature and Chimneys" printed in last week's issue; and that slums are interesting to the artist was made manifest in "Here and There" the week before. Are we, then, growing decadent, that we unblushingly profess a liking for what it was an established convention to consider unlovely? Or is it that we are bursting the bonds of the old conventions and acquiring a larger catholicity of taste, a more comprehensive charity of the eye? It may well be so, because those who praise the tall chimney as an agreeable feature of the landscape praise also the spires and turrets and domes, whose encomiasts had hitherto despised tall chimneys. An "Ode on a Distant Prospect of Widnes" might yet match Gray's "Ode on a Distant Prospect of Eton College," if that were not matchless. It is to be noted that all the lovers of tall chimneys prefer a distant prospect. Stevenson liked to survey them from the Calton Hill; and, by the way, a sort of affection for them is betrayed in nicknaming Edinburgh "Auld Reekie." Tall chimneys in and around that fine city are certainly among its most impressive features, the shafts being commonly of graceful build, and the thin grey smoke from them curling upward languidly and inoffensively. In strong contrast are the ungainly shafts of manufacturing districts, an obscene reek rolling out furiously to the blackening and blighting of the landscape for miles round. These also have their admirers, some of whom make pictures of them on *Nihil-humanum-me-alienum-puto* principles, and by no means belittle the smoke and grime.

* * * *

Glasgow can, or could, boast of the tallest of tall chimneys—that at Townshend's Works, Port Dundas. With the exception of the Great Pyramid and a spire at Strasburg and another at Vienna, it was the loftiest building in the world. Its foundations were laid 14 ft. below the surface—six courses of hard brick on edge covering a circular area 47 ft. in diameter, diminishing gradually to 44 ft. At the surface the outside diameter was 32 ft., with walls 5 ft. 3 in. thick. At the cope the outside diameter was 12 ft. 8 in., with 14 in. walls, and the total height was 468 ft. Messrs. Tennant's biggest chimney, at St. Rollox, was also built "more than common tall"—455½ ft. from base of foundation to top of shaft, the foundation being 50 ft. square and 20 ft. deep.

vhile the outside diameter at ground-level is 40 ft., nd at summit 13 ft. 6 in. It weighs a trifle of seven housand tons. At the Camperdown Linen Works, ıear Dundee, there is a square chimney, "somewhat n the Italian style," built of variegated brick and 30 ft. high, with panelling and a balcony near the ummit. This is to do the thing in style; nd, indeed, there are in existence so many legant specimens of chimney stacks that o liken the campanile of Westminster Cathedral o them is not necessarily to make an invidious com-arison. We ought really to be very proud of our tall himneys, for what they are as well as for the rosperity they connote; but it will be agreed that ney are best seen in a distant prospect.

* * * *

That Londoners do not more highly and more enerally appreciate their great buildings is because ıe proverb about familiarity has considerable force. Vhy Tennyson's William loved not Dora was because e had always dwelt with her. Soldiers from over eas, here to day and gone to-morrow, seem to be ıuch more sensitive to the charms of London than re its citizens, and it is very interesting and to some xtent instructive to learn how our buildings strike ıem. On this point Mr. G. A. T. Middleton is eculiarly well informed. It has been his delightıl task to act as architectural guide round London o parties of Colonial troops numbering in the ggregate about seven thousand men, and at our equest he has been so good as to set down some of is experiences. He springs no surprises on us. ur compatriots were impressed exactly as we ıould have anticipated by the overpowering istorical associations of Westminster Abbey and ıe Tower, by the magnificence of the brickwork Westminster Cathedral, by the noble spaciousness St. Paul's, by the inadequacy of Buckingham alace, and by the meanness and tortuousness of reets that ought to be broad and straight.

* * * *

On this last point their views seem to coincide ith those of two young American architects who sited our offices just before war was declared. It is a sin," these young Americans declared, "to atter such mighty fine buildings among such habby streets. If only it had vistas, this city ould be the finest we have visited; and we have en all over the Continent of Europe. You have e finest modern buildings, but you do not give em a chance to speak for themselves. They have be dug out from holes and corners. They seem st to happen anywhere. But, anyhow, we are ginning to think that this is the unique charm of ondon: one happens upon rare and beautiful things the most unlikely places. Yes, London is a grand ty, but there is no general plan to it." That, in fect, is also the verdict of the Colonial troops, and is more complimentary to our architecture than to ır sense of congruity. We trust, however, that r. Middleton always told his parties that we have nceived the town-planning idea, and that its velopment has been merely postponed by the war.

* * * *

It could no doubt be explained, with a little legal genuity, why those who suffer from a native bellion—say in Dublin—should be compensated d comforted by the Government, and why, on the her hand, those who suffer at the hands of an alien emy—as when bombs are dropped upon them om Zeppelins—ought to be rather grateful for ing allowed to bear the brunt of it. Perhaps this screpancy is accounted for by a marked difference national temperament; the Irish, being a meek d long-suffering people, receive the just reward of their virtue; the English, being habitually fiery and froward, are righteously strafed therefor, although in this instance they certainly have not incited the air-raids. Anyhow, the fact is discordant enough that while the lieges of Ireland are being patted on the back, those of England are being vigorously kicked. At the same time that "Dear Mr. Nugent," M.P., is being assured from Dublin Castle that "the cases of persons killed or injured without any default on their part during the recent disturbances" are to receive sympathetic consideration, an Englishman whose property has been bombed into a parlous state of instability is summoned for inspection fees relating to a dangerous structure! And the dispenser of justice told him, in effect, that he had only himself to blame—he ought to have insured against such contingencies. "And that's the humour of it"; but it is very poor fun for the victims. We shall not begrudge the Irish any compensation they may obtain—we have, indeed, from the outset advocated just reparation; but we have also consistently held—and we reiterate the claim with emphasis—that the damage done to property by enemy attacks should be a charge upon the nation, and not upon the luckless property owner.

* * * *

Many architects serving with the forces are too effectually disguised in their uniforms. When they became soldiers or sailors, they ceased, for a time, to be architects. Some of them delight in the complete transformation; but there must be many others—probably the majority—who feel that their special qualifications are rather wasted because unknown to the service authorities. It was mainly in the hope of doing work for which they are well qualified that so many joined the Royal Engineers. Those who are sprinkled through other units stood much less chance of turning their talents to account until the R.I.B.A. Selection War Committee came to the rescue. Mr. Alan E. Munby, the hon. secretary of that committee, announces that the War Office now recognise a card setting out the professional credentials of architects now serving. This card can be kept in Army Book No. 64, and carried about to be produced if any special services are required, and the War Office has supplied all commanders-in-chief at home and abroad with samples of these cards, accompanied by a covering letter. Credential cards are only sent to men who have filled in a war's service form issued by the committee last November, but the forms are still obtainable, and, when filled in, will be brought before the committee with a view to the issue of credential cards. This is clearly an excellent device for preventing round-man-and-square-hole wastage.

* * * *

An interesting and very opportune letter, from Mr. Edmond J. Hill, President of the London Master Builders' Association, appears in the "Morning Post" of October 4, as a commentary upon an article on the relations between capital and labour published in that paper on September 30. In that article there was a reference to the difficulty of a workman talking over a grievance with his employer. Mr. Hill is sure that this difficulty does not exist in the London building trade. His firm is always ready to listen to any reasonable complaint; and he believes that he can confidently make the same assertion on behalf of his colleagues in the Association. He cites in evidence a working rule to the effect that employers agree to interview, by appointment, any official representative of the men in respect to any matter in dispute. This rule is, of course, very familiar to us, and we were glad to chronicle its adoption. It should nip in the bud many a dispute that might otherwise grow to awkward dimensions, and Mr. Hill has done a public service in calling attention to it for the benefit of other industries.

HOW LONDON IMPRESSES THE COLONIAL TROOPS.

[SPECIALLY CONTRIBUTED BY G. A. T. MIDDLETON, A.R.I.B.A.]

THE following article has been written at our request by Mr. G. A. T. Middleton, A.R.I.B.A., who, as official guide to Colonial troops in London, has had a unique opportunity of ascertaining what the men from Overseas think of the metropolis and its buildings:

"London disappoints me in some ways," remarked one of the men. "Its streets are narrow and twisted, and most of its buildings are smaller than I expected to find them, and dingy to look at. I grant, at the same time, that its greatest buildings are far beyond what I had imagined them to be, and that some of the older ones are more full of historical interest than I should have thought to be possible; while as to your museums, they are simply magnificent." The speaker was an unusually observant member of the Overseas forces, with greater powers of expressing himself than most, but he only put in three sentences what, less articulately, had been conveyed to me for months past by man after man. It was the general impression of all, put in condensed form, and particularly of those from the cities of Canada and the United States (which a large proportion of the Canadians are familiar with) and from Australia. Naturally there was more wonderment and less criticism from the New Zealanders and the South Africans; and during the last ten months I have had all these in plenty, and also Boers, Maoris, and Fijians amongst those who have followed me about London.

On one other point there was universal agreement also—that there was so much of interest in London that only a very little indeed could be seen within the period of the usual short leave; and that even if this were extended tenfold and the time fully occupied, there would still be much more to see—that is, to merely glance at, without thinking of study. At the same time, so far as opportunity permits, a large proportion of these young men from Overseas are desirous to study. They belong to all classes. In the ranks are rich and poor, well educated and (though rarely) ill educated; but to all of them the "old country" is "home," about which they have heard much and are eager to learn more—especially of its historical associations, and what it has stood for in the past and stands for in the present.

Take Westminster Abbey as an example. Its architectural beauty appeals to all, though in a vague sense of wonderment rather than with understanding, as is to be expected; but the appeal of its historical associations is greater. It is as the place of unbroken tradition, where every English Sovereign has been crowned from Harold onwards, for no less than 850 years, that it is venerated most by men from the new lands of Greater Britain. To see with their own eyes and to touch the crude carvings, still sharp as when first wrought, in the Chapel of the Pyx of Edward the Confessor's days, or the lovely foliage in the Chapter House of the time of Henry III., is an absolute revelation—worked in soft limestone and yet so perfectly preserved for a period of time almost beyond their comprehension: for hitherto English history, though taught them at school, has been much more vague and far away than it is even to the average English schoolboy. Coming fresh to it all, as these men do, the impression is unquestionably vivid, and will last. They see for themselves at Westminster, as it were in a striking picture suddenly presented to them, the whole continual character of England's development as a nation, and, more than this, the intimate relation which existed between Church and State in earlier times, the character of monastic life and its influence upon both the morals and the health and the intellectual development of the nation as a whole, so long as it endured. An if it is properly put to them, they grasp it all, at on

The appeal of St. Paul's Cathedral is natural different. Its external majesty and the vast intern spaciousness of the dome affect the majority mo than do the purer beauties of Westminster; but the are no such historical associations as to overwhel by their variety and complexity. The grown-u children with the intellects of men can grasp a understand St. Paul's. It satisfies them mentall but in few cases does it appear to touch them mo deeply, as the great Abbey Church does again a again.

Probably, in the majority of cases, if the questi were asked which building in London was co sidered the most beautiful, the reply would be "T Houses of Parliament"; and that mainly on accou of its profusely detailed interior, with its gilding a colouring. Exception, however, must be made f Westminster Hall, the fact of its roof now bei under repair for the first time for 500 years bringi vividly to these men's minds a realisation of wonderful construction and the extreme durability oak. That the constructionalists of the great Goth periods, so far and further back, should have h both the technical skill and the mathematical kno ledge to enable them to build such roofs as this, a such vaults as at Westminster—especially that wh is the glory of Henry VII.'s chapel—is a pure reve tion to the men from Overseas, particularly wh they recognise that they are not looking at the wo of strangers, but such as their own forefathers ha hand in.

The Tower of London has many different appe to different men. Some prefer to gloat over Crown jewels, more gorgeous than anything th have imagined in their wildest dreams; but th practically all recognise its great value as a fortr in the days of elementary weapons, and read grasp the essential features of its plan. The sim dignity of St. John's Chapel impresses a gr number; it so obviously is old, and symbolical stern and warlike folk.

Hampton Court, ideal holiday haunt of a Sund afternoon, is, like these other sights of Lond much more than this to our cousins from over the w waters. It brings before them, as in a vivid, sud flash, the splendour and pomp of the Tudor peri and the ordered state of William and Mary, a shows them, in its beautiful surroundings, wha sweet country England is, and always has been, live in. It is truly "home," of which they have often heard—and "home" at something like its b

Taken broadly, after ten months of const intercourse with our soldiers from Overseas, dur which time I have come in personal contact w nearly seven thousand of them, I have found th with the exception of the Houses of Parliament, i the older buildings of London with which they the more greatly impressed. Doubtless this is largely to their having heard more of them, and their extraordinarily diversified historical asso tions, but it is also due to some extent to a recogni of their architectural beauty and possibly more to feeling that they were part and parcel of the which their own forefathers lived—and that no very long ago. In the old buildings, in fact, t recognise their own personal inheritance. They as much theirs as they are ours, and they know always sub-consciously and sometimes conscious

It need not be thought, however, that they do recognise to the full that the great modern buildi are beautiful also. They do; and to an extent



MODERN AMERICAN ARCHITECTURE (SERIES II.). XIII.—PUBLIC LIBRARY, WALTHAM, MASS.

LORING AND LELAND, ARCHITECTS.



MODERN AMERICAN ARCHITECTURE (SERIES II.). XVI.—PUBLIC LIBRARY, WALTHAM, MASS.: FRONT ELEVATION AND SIDE ELEVATION.

LORING AND LELAND, ARCHITECTS.

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MODERN AMERICAN ARCHITECTURE (SERIES II.). XIV.—PUBLIC LIBRARY, WALTHAM, MASS.: ENTRANCE PORTICO.
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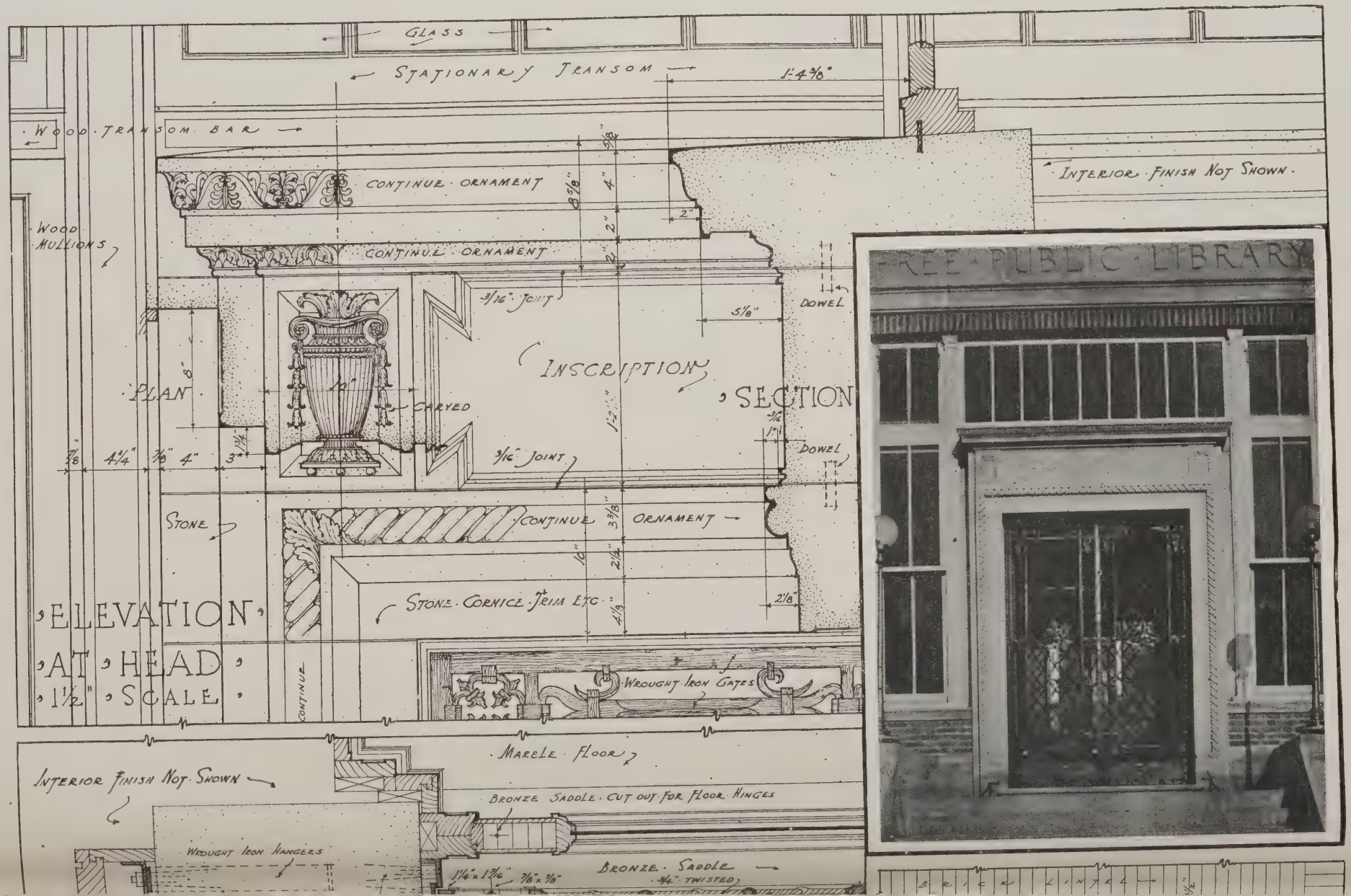


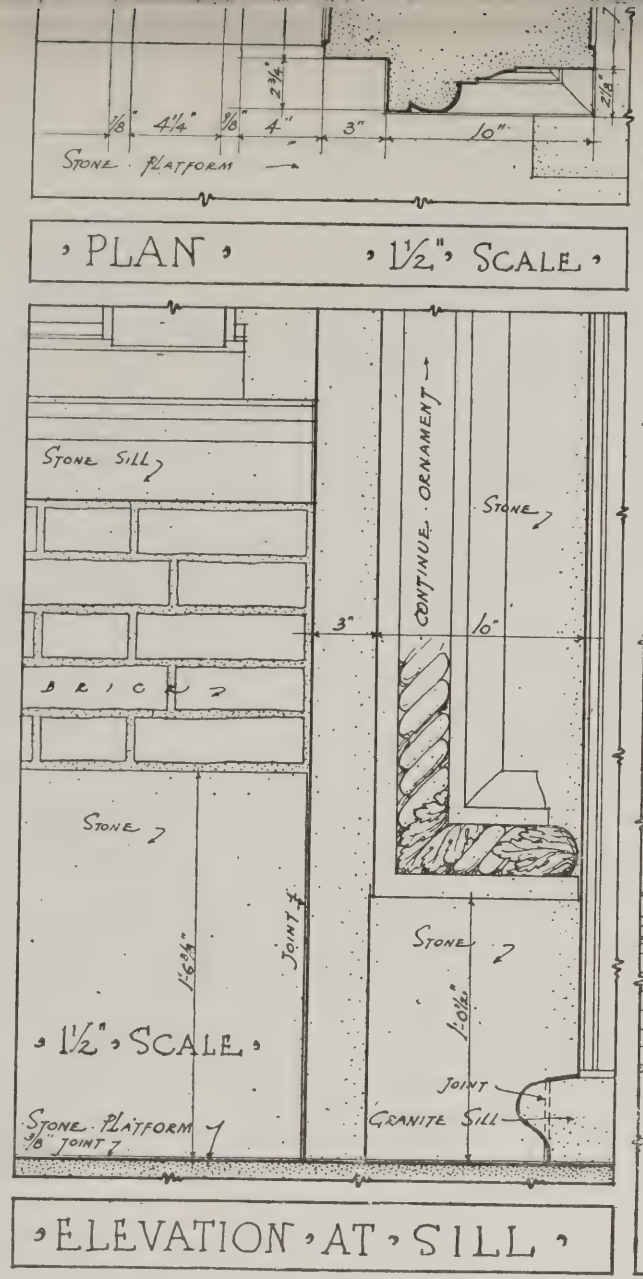
MODERN AMERICAN ARCHITECTURE (SERIES II.). XV.—PUBLIC LIBRARY, WALTHAM, MASS.: WINDOW TO FICTION ROOM.

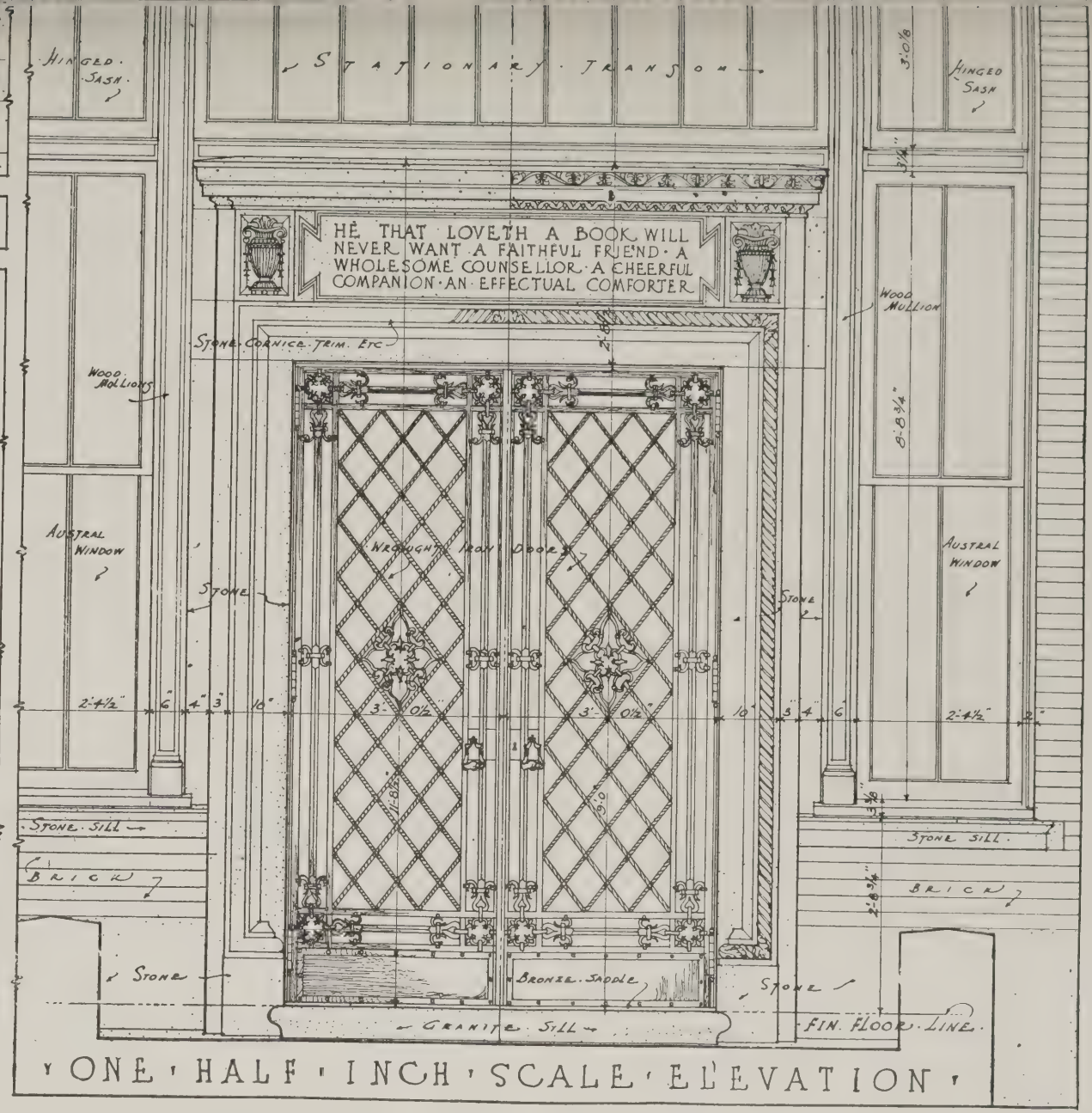
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GLASS
STATIONARY TRANSOM
1'-4 3/8"
WOOD TRANSOM BAR
CONTINUE ORNAMENT
INTERIOR FINISH NOT SHOWN.
WOOD MULLIONS
CONTINUE ORNAMENT
3/16" JOINT
5 1/8"
DOWEL
INSCRIPTION
PLAN
SECTION
CARVED
3/16" JOINT
DOWEL
STONE
CONTINUE ORNAMENT
STONE CORNICE TRIM ETC
ELEVATION AT HEAD 1 1/2" SCALE
WROUGHT IRON GATES
MARBLE FLOOR
INTERIOR FINISH NOT SHOWN
BRONZE SADDLE CUT OUT FOR FLOOR HINGES
WROUGHT IRON HANGERS
BRONZE SADDLE
FREE PUBLIC LIBRARY





DOORS AND DOORWAYS. VIII.—MAIN ENTRANCE DOORWAY, PUBLIC LIBRARY, MONTCLAIR, U.S.A.

NELSON AND VAN WAGENEN, ARCHITECTS.

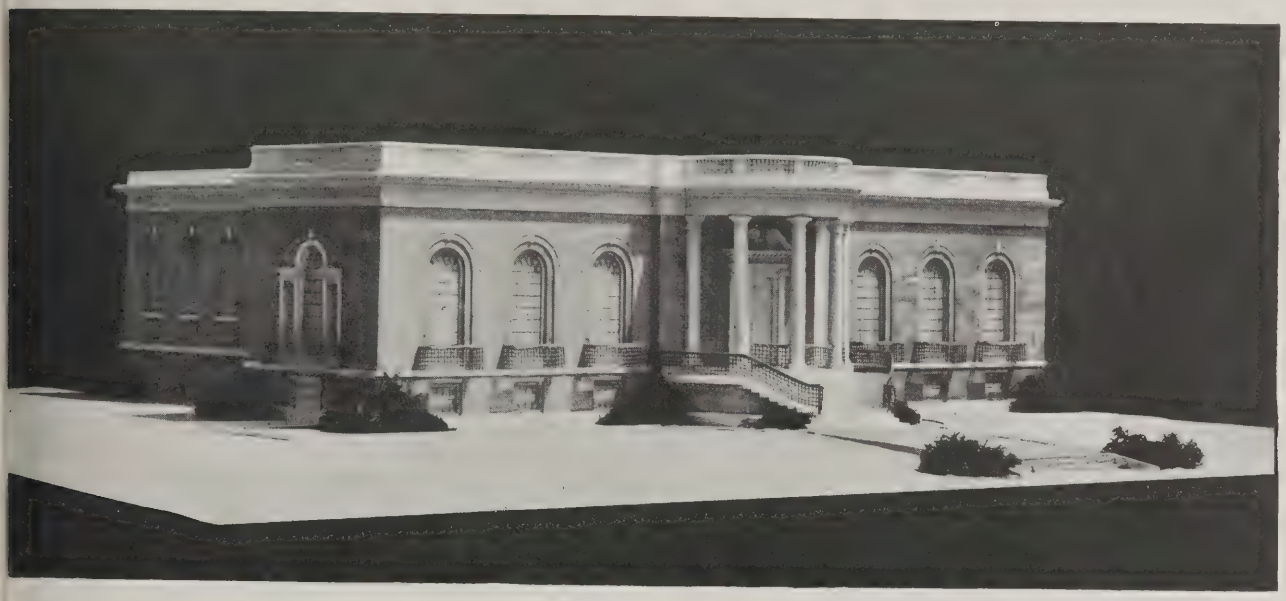
erably in excess of our own appreciation, who have
them built. The Law Courts (especially its
ntral Hall), the Central Criminal Court, the
perial Institute, the Natural History Museum, the
toria and Albert Museum, and the interior of the
nan Catholic Cathedral at Westminster more
n all, receive admiration which is little stinted;
l that the unfinished, solemn brickwork of the
hedral should be so universally acclaimed as "a
vellous building" (words which I have often
rd applied to it) says much for its majesty, and
the innate power of discriminating between the
d and the best which so many seem to possess
have spent their lives in nature's vast open
ces.

Naturally the Guildhall, Mansion House, Bank of
gland, Somerset House (not forgetting its great
rtyard), and the Temple and its church, all fall
the category of the second best, and have not
so regularly visited. Still, when seen, they have
met with full recognition, as have also the build-
s in Whitehall and the Queen Victoria Memorial;
the remarks made about Buckingham Palace have
n been far from flattering, and may be summed
n the expression "Unworthy of a great Empire"
nd that in spite of the new front!

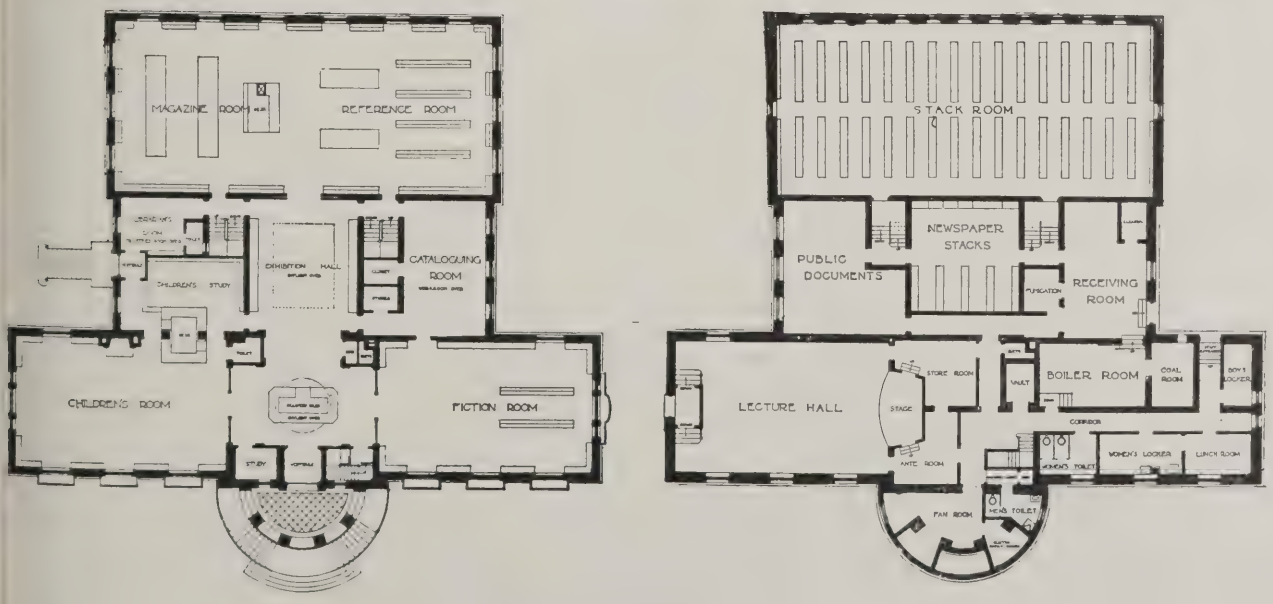
THE PLATES.

Public Library, Waltham, Mass.

THE small public library is generally a very dull little building, lacking in architectural character, and spattered with poor ornament. Carnegie libraries up and down the country serve to illustrate this unfortunate fact. Yet it need not be so, if only the architect has sufficient ability for his task, and to show what can be done we illustrate this week the beautiful little building which has been erected at Waltham, Mass., from designs by Messrs. Loring and Leland. We do not recall another modern building of its size and class that equals it in point of composition, elegance, and arrangement. It owes much of its character to Colonial work and the domestic architecture of Late Georgian England, but it is no mere transcript in any part. Built of brick and limestone, it is delightful from every point of view, and while the general effect is immediately captivating, a closer study of its details only intensifies one's interest. The treatment of the front with its semi-circular porch and gracefully shaped steps, and the range of three trellis-headed windows on either side, seems to us quite perfect. The details



Scale Model



Ground Floor and Basement Plans.

PUBLIC LIBRARY, WALTHAM, MASS. LORING AND LELAND, ARCHITECTS.

throughout are very refined, as may be noted in the capitals to the pillars, the iron balustrading, the entrance doorway, and the cornice with its balustraded parapet. The successful result was achieved only after the most careful study, and the making of a quarter-scale model (illustrated on p. 165) helped considerably in ascertaining beforehand what the design would look like in execution. The accompanying plans show the arrangement of the library. Supervision of the three public rooms is effected from the delivery desk, a desk between the children's room and the study gives control of both, and a third desk in the reference room controls that portion of the building.

Doorway, Montclair Library.

This detail drawing of the entrance doorway to the Public Library at Montclair, U.S.A., does not need description, being self-explanatory. We reproduce the drawing from a recent issue of "Architecture," New York.

A NOTE ON MURAL PAINTING.*

BY E. ROWORTH.

THE simple and unchanging laws which govern mural decoration are almost intolerably ancient, and an entirely new and original style of mural decoration is as difficult to conceive, and would be as appalling to witness, as an entirely new and personal style of architecture. In the first place, a wall painting should appear to be part of the wall and of the room. It should be at the same time an enrichment and a background. This being so, it should never be too insistent upon the attention. Both intellectually and technically a mural painting should be simple, clear, and easy to read. It is scarcely necessary to point out that Cubism, Futurism, Vorticism, or indeed any of the esoteric art cults of the moment, are particularly out of place in mural decoration; and, as the general effect should not be too assertive, so also the style of mural painting should not be markedly personal.

We are in a different world from that of the easel picture—in the latter there is a large field for private preferences, whereas the mural painting is public art; and, though a man may be as personal as he pleases in intimate conversation with chosen friends, yet public manners require concessions to convention and usage. Certain demands are made upon mural paintings which easel pictures avoid, at any rate to a large degree. A mural painting, as part of a wall, must partake of its flatness. We paint upon a wall to beautify its surface, and in the great days of mural painting it was never forgotten that the painter was called in by the architect to enrich and make splendid with colour and gold a building already noble in its structure and proportion.

This primal quality of approximate flatness is achieved in various ways. We can, for instance, simplify the complexities of the planes in nature. Thus it is always well in planning a mural painting to reduce the intervals of distance to a few readily understood planes. A foreground, middle distance, and distance give a simple and sufficient scheme, or one still more simple and severe is a foreground and distance only. Another valuable help towards attaining the necessary flatness is the reduction of the element of light and shadow, and its translation into a change of colour more than a change of tone. We can very easily reduce the amount of light and shade in any given subject by lighting the scene by means of a diffused light from the front instead of from the side or back, and we can also simplify the infinite gradations of nature between high light and deep shadow into two or three readily grasped planes—say, light, half-tone, shadow, and even then there should be no high light or deep shadow.

Of course, it is possible to do away with shadow altogether, and we are then left with outline and flat tint—a very early art convention which has been revived and made familiar to us in the art of the poster. This convention can be exceedingly powerful, but as we have agreed that a mural painting should not be too insistent, but should rather be a quiet accompaniment to the main business that is going on in the room, I think we may ask that this convention shall in most cases be left to the poster, whose mission is to shout its message and to distract attention from everything else.

If we wish to be guided by the great Italian decorators from Giotto to Raphael and Veronese, we shall find that they use a different convention. They retain shadow, though their shadow is not realistic. They translate shadow into a change of colour, which still allows the different planes to tell in the modelling and so retains that sense of plastic force and solidity which is one of the essentials of great monumental art.

This question of shadow and colour is so important that I wish to be clearly understood. The change from light to shadow in the work of the great masters is an intensifying of the local colour, and not merely a darkening, and I regard this convention as one of the fundamentals of great decoration.

When talking about mural painting it perhaps seems that there is an undue insistence upon its limitations and conventions, yet it is just those limitations where the greatness and splendour of mural painting lies. Those rigid and unchanging conventions raise it to the dignity of a monumental art whose classic spirit is untouched and unmoved by the ephemeral fashions of to-day or yesterday, and it has always been true to say that the great artist achieves his happiest results when working strictly within the limits set by his material.

A revival of interest in mural painting holds out for our modern art a promise of greater and more lasting achievement than much which is being produced under present conditions either in this country or elsewhere.

So complete has been the divorce between architecture and painting that even the simplest principles of mural decoration have been forgotten or ignored, until we have reached a point where a study of the great majority of the efforts which have been made to decorate public buildings in our time is a valuable lesson in what to avoid.

I need only mention, as an instance, the paintings in the Royal Exchange, which, with two possible exceptions, are merely enlarged easel pictures, cheerfully defying every principle of mural decoration. So great and far-reaching has been this neglect of formal and monumental composition, that this same composition has come, indeed, to be regarded almost as a virtue in the paradoxical minds of some modern painters. I have heard them say with apparent pride that the composition was entirely accidental—and they certainly looked it—rather bad accidents also.

This comparative neglect of composition has been a source of much weakness to modern art, for what we intend to express by the word "composition" is the great principle which is fundamental and unifying to all the arts. Composition is selection, is order, is arrangement. In the art of painting, composition does not merely concern itself with great decorative groups, but is necessarily present in the simplest subject the painter can set himself. Suppose, for instance, that I set out to paint a portrait head. There are many difficult problems to which I must find an adequate answer, but the first and foremost question is this: "Where am I going to place the head on the canvas?" "How far from the top or bottom, how

* From the 1915-16 Kalendar of the Cape Institute of Architects.

rom the left or right border?" This is the problem f the division of spaces. Now if I include the hands must make up my mind where I shall place them—his brings in the problem of balancing the dominant nd subordinate masses. Then I must decide what is o be the general silhouette of the figure against the ackground. This is the problem of line.

In the great ages of art, constant training in the ractice of mural decoration had taught artists effec-ve answers to all problems, but to-day, with the easel icture all-important, and the dominance of the per-onal note in painting, these problems are too often nored and quite cheerfully left unanswered.

Composition is the principle in art which preserves ie classic spirit and makes for order and stability. A erfectly new and original form of design is practically nconceivable. I remember my surprise when, during y recent visit to Europe, I had the opportunity of udying for the first time some of the works of ezanne, to find that the composition of this most storious of revolutionaries was exceedingly formal nd monumental. The main lines of the design of this odern of the moderns was probably a settled conser-ative principle in the arts before the Children of rael crossed the Red Sea. For artists will make a ousand changes in the contents of a work of art, but ill only make the slightest alteration to the mould in hich it is cast.

It is possible by studying the works of master mposers to find in them some of the guiding prin-ples by which these enduring masterpieces have been uilt up.

In mentioning just now the problem of painting a ortrait head, we glanced rapidly at some of the first inciples of design, and you may remember that the ndamental principle was the division of space, and in l the great masters you will find that the relation of e masses or spaces towards each other are full of terest and beauty.

Some of these spaces will be filled with details and ntain minor divisions, and others will be compara-ely simple, and thus we reach the great beauty of a lance between filled and empty space. Again, some e of these masses will be more important than the hers, and this balancing of the dominant and sub-dinate masses will be carried throughout the com-sition. Then the whole work will be unified and und together by an arrangement of lines, and these es will not only be beautiful in themselves, but will so arranged that the eye is led easily and without tigue from one mass to another, until it is finally ought to rest on the dominant mass and centre of erest of the whole composition. Lines, also, as we know, have a life and character of their own—thus, rved lines convey the idea of motion, horizontal lines ggest repose, and vertical lines are expressive of ability and force.

I am only touching on the very fringe of the study composition, but these are fixed principles, and there s been no great mural art which violated these damental principles. Every great master of deco-ion allowed these principles to dominate his mposition. In the mural paintings of Raphael, for tance, there is not the smallest detail which is not ying its part in the harmony of the whole—not the ve of a leaf, nor the direction of a finger could be ered without a distinct loss. Raphael, himself an hitect, was the greatest master of formal design the rld has yet seen. In one room alone, the Stanza la Segnatura, he has given us perfect examples of mposition for the circle, the rectangular panel, the mi-circular lunette, the segmental lunette, and the rced lunette; and in Santa Maria della Pace there is example of a frieze interrupted by a central arch. t with all this Raphael introduced no novelties of nciple.

DEATH OF MR. PHENÉ SPIERS.

WE greatly regret to announce the death of Mr. Richard Phené Spiers, F.S.A., F.R.I.B.A., which occurred at his residence, 21, Bernard Street, Russell Square, on October 4. He held an almost unique position in architecture. Educated in the engineering department of King's College, London, he entered, in 1858, upon a three years' course in the Atelier Questel of the Ecole des Beaux-Arts, Paris, an experience of which he was justly proud, because in those early days it was rare with Englishmen. He won the gold medal and travelling scholarship of the Royal Academy Schools, and was the R.I.B.A. Soane Medallist in 1865. Entering the office of Sir Digby Wyatt, he assisted in work at the India Office. Later he helped William Burges with drawings for the Law Courts competition.

His own work as a practising architect was, as a matter of quantity, comparatively insignificant, among the most noteworthy examples being Lord Monkswell's house on the Chelsea Embankment. He designed however, *con amore*, several painters' studios, being himself an accomplished draughtsman and painter in water-colours. It was in his capacity as Master of Architecture at the Royal Academy—a post that he held for five-and-thirty years—until 1905—and in his numerous writings, that he exerted most influence on architecture. Among the many books he edited are revisions of Pugin's "Normandy," Fergusson"s "History of Architecture," and Speltz's "Styles of Ornament." He wrote indefatigably for the professional periodicals, including the "Architectural Review" and this Journal, nearly always taking the historico-philosophical point of view. He was equally conversant with Classical and Oriental building, and had given an enormous amount of attention and personal investigation to the construction and development of domes. He was also a keen student of Japanese art. His cosmopolitanism is marked by his membership of several foreign societies—the Paris Société Centrale des Architectes, the Society of Architects of Madrid, the American Institute of Architects; and he was a member of Council of the Japan Society.

On the occasion of his retirement from the post he had so long held at the Royal Academy, he was presented with a testimonial which was signed by more than three hundred names, and a commemorative medallion was designed by Professor Lantéri. At the same time the Société Centrale des Architectes Français, and his old atelier at Paris, seized the occasion to do him honour. A surplus sum from the testimonial fund he applied to the acquirement of architectural drawings for the national collections, and South Kensington is the richer for his generosity, as well as for that of many architects and others who were prompted to make like gifts in recognition of his long and honourable services to architectural education.

He served for many years on the Council of the Institute, had been president of the Architectural Association, and was known the world over not merely for his ripe scholarship, but also for the entire unselfishness with which he scattered its fruits. He had reached the age of seventy-eight, with but little abatement of his intellectual vigour.

At the resorts of architects, he was always the centre of a group of eager listeners; for his fund of anecdote was as rich as his store of knowledge. He dearly loved a good story, and had a very happy knack of hitting off, in racy narrative, the whims and oddities of notabilities he had met; and reminiscences of his happy student days in Paris were a favourite theme with him.

THE R.I.B.A. RECORD OF HONOUR: THIRTY-FOURTH LIST.

The R.I.B.A. "Journal" of September 30 contains the following list:—

Architects Fallen in the War.

Abercrombie, Balfour [Licentiate], Private in the Black Watch, serving in France. Died of wounds on July 31. Aged thirty-eight.

Balfour Abercrombie was educated at Paisley Grammar School and Rontenburn Boarding School. Intended for the profession of architecture he spent about a year at the joiner's bench and was then articled for five years to Mr. James Miller, A.R.S.A. [F.], of Glasgow, studying meanwhile at the Glasgow School of Art. On the completion of his articles he remained with Mr. Miller for two years as assistant, and started practice for himself in 1906. He was the architect of numerous villas in Paisley, Troon, Wemyss Bay, etc., of a church at Renfrew, a model farm at Kilmacolim, and considerable extensions at Brockwood Park, Hants. By arrangement with several clients he cancelled his engagements in October, 1915, and joined the Argyll and Sutherland Highlanders as a private. Two months ago, when a draft to the Black Watch was proceeding to the front in France he volunteered for immediate active service and was accepted. After ten days in the trenches he took part in an attack, and on returning to billets some six miles from the front was wounded with three of his comrades by a shell which burst overhead, and he succumbed to his injuries the same evening.

Stonehouse, Lieut. Charles [A.], 11th Battalion East Lancs Regt. Killed in action in France on July 1. Aged thirty-four.

Lieut. Stonehouse was the third surviving son of Mr. F. Stonehouse, of Blackburn. He was a pupil of Messrs. Briggs and Wolstenholme, of Blackburn and Liverpool, for five years, and was with them afterwards for a year as assistant. He was subsequently in the offices successively of Mr. N. Hartley Hacking, of Manchester, and Mr. John T. Proffitt, of Tamworth, Bolton. He was elected Associate of the Institute in 1910. On the outbreak of war he enlisted as a private in the Accrington "Pals" Battalion of the East Lancs Regt., and after promotion through the N.C.O. grades was granted a commission in the same regiment. He served both in Egypt and France.

His Commanding Officer, Lieut.-Colonel Rickman, writing to Mr. Stonehouse, senior, says: "I cannot express to you how deeply we feel his loss and how much I have appreciated his good services. He carried out his duties calmly and coolly, and in him the regiment has lost a fine soldier, a brave leader of men, conscientious in all his duties. No matter how hot the fire, he always appreciated the situation in his calm, cool way. On the day he was hit nothing could have been finer than the way he led his men to the assault. In spite of intense artillery, machine-gun, and rifle fire, he led his men forward to endeavour to capture the objective allotted by the higher command."

Stubbs, Lance-Corporal Edward Woodhouse [A.], 72nd Section, 32nd Division, R.A.M.C. (T.). Killed in action on August 7. Aged twenty-eight.

Lance-Corporal Stubbs was the only son of Mr. J. Woodhouse Stubbs, artist, of London, and served his articles with Mr. W. J. Dunham, of Norwich.

He was elected Associate of the Institute in 1910, having been placed 6th in the Intermediate Examination, 1907. He first took up domestic work, assisting Mr. W. G. Ross, Broad Street, and Mr. G. Walton, Emperor's Gate, but for the last few years was with Messrs. Searle and Searle, Paternoster Row, being chiefly occupied with factory designing, in which branch, owing to his very considerable knowledge of machinery, he was specialising. He held strong views on the improvement of workmen's cottages, and had been awarded prizes in two of the open competitions for improved cottages.

Lance-Corporal Stubbs was helping to remove wounded civilians out of houses being demolished by shell-fire during bombardment, when he was instantaneously killed. His Commanding Officer, Captain Cattlin, writes: "He undoubtedly met his death with the greatest heroism and self-sacrifice. His action is greatly admired by us all."

The Staff-Sergeant, on behalf of the men of the 72nd Section, writes: "He was the most useful and popular member of the Section—always ready to help any one of us in any difficulty."

A permanent memorial is to be erected over his grave by the 72nd Section.

For many years he suffered severely at times from asthma, which he bore with great bravery and cheerfulness—always thinking of others first. His kindly and chivalrous disposition endeared him to all his friends, and a very promising career has been cut short.

Winch, Corporal Arthur [A.], 15th West Yorks Regt. Killed in action in France on July 1.

Corporal Winch served his articles with Mr. Walter A. Hobson, of Leeds, and studied at the Leeds School of Art, passing twice through its two years' architectural course. He was for five years assistant with Mr. Hobson after completing his articles, and started practice on his own account in 1909. He was elected an Associate of the Institute in 1911.

Bowles, 2nd Lieut. Bernard G., The Buffs. Killed in action on September 3. Aged twenty-two.

2nd Lieut. Bowles, a member of the Architectural Association, was the son of Mr. Charles W. Bowles [F.], of Sevenoaks, Kent, in whose office he was being trained. Granted a commission from the Inns of Court O.T.C. in January, 1915, he went to the Front last Easter, and in two days found himself in the front trenches. On August 18 he was slightly wounded. He was again twice in action and was killed while leading his men in an attack. His Colonel writes: "He was one of the bravest of soldiers. He had previously been wounded, but refused to go down."

Denison, Captain R.D., Royal Warwickshire Regt. Killed in action.

Captain Denison before the war was architect to Lloyds' Bank.

Forbes, 2nd Lieut. William Alexander Stanhope, Duke of Cornwall's Light Infantry. Killed in action on September 4. Aged twenty-three.

2nd Lieut. Forbes was the only son of Mr. Stanhope Forbes, R.A., of Newlyn. He was educated at Bedales College, Petersfield, and in 1914 was awarded the A.A. Travelling Studentship.

Livingstone, Private George M., of Stirling, Argyll and Sutherland Highlanders. Killed in action. Aged thirty-five.

Reid, 2nd Lieut. John, King's Liverpool Regt. Killed in action on August 18.

2nd Lieut. Reid served his articles with Messrs. Morter and Dobie, architects, of Dale Street, Liverpool.

Sparrow, 2nd Lieut. Frank E., R.E. Killed in action.

2nd Lieut. Sparrow, of Dublin, was a member of the Royal Institute of the Architects of Ireland, and had held the position of Inspector in the Architectural Department of the Irish Office of Works. He was for some time hon. secretary of the Architectural Association of Ireland.

Watt, 2nd Lieut. Colin, R. J., R.E. Died of wounds. Aged twenty-four.

Wounded.

Barrowcliff, 2nd Lieut. A. M. [Student], Leicester Regt., attached R.E.

Clouting, 2nd Lieut. Charles Emerson [A.], East Kent Regt.

Knight, Lance-Corporal Shirley [Student], Royal Engineers.

Newton, Lieut. William Godfrey [A.], 23rd London Regt. (son of Mr. Ernest Newton, A.R.A., President). Badly wounded in left forearm. In hospital in London.

Worthington, Captain J. Hubert [A.], Manchester Regt.

Captain Worthington was very seriously wounded, being shot through the body and lung, and through the thigh and the left arm and hand, and sustaining broken ribs among other incidental damage. His condition was very grave for a time and caused his friends much anxiety. He is now, however, out of danger and making a very good recovery. Captain Worthington is a brother of Mr. Percy S. Worthington [F.], who has two other brothers very badly wounded.

Serving with the Forces.

The following is the thirty-fourth list of Members, Licentiates, and Students R.I.B.A. serving with the Forces, the total to date being 67 Fellows, 491 Associates, 296 Licentiates, and 286 Students:

FELLOWS.

Cresswell, H.O., Staff Captain, Lands Branch, War Office.

Hall, Laurence Kirkpatrick, 2nd Lieut., R.G.A.

Spalding, R.H., Red Cross Unit, Hospital Ship, "Glenart Castle."

ASSOCIATES.

Brooker, A. E., R.N.A.S.

Brooks, W. E., R.N.A.S.

Cable, J. Sydney, Cadet, Artillery School

Cosway, R. W. A. J., Lieut., Montgomeryshire Yeomanry.

Davison, William R., 2nd Lieut., R.F.A.

Dewhurst, R. H., 16th Reserve Battery R.F.A.

Hill, Claude E., Corporal, R.A.M.C. (T.)

Livock, S. G., R.A.M.C. (serving in France).

Loveitt, R. A., R.N.A.S.

Moore, E. J. E., London Rifle Brigade.

Morran, H. S., Lieut., New Zealand Field Artillery.

Ritchie-Fallon, W. A., with General Smuts's Forces.

Robinson, A. D., O.C. left half "A" Co. 2nd Labour Battalion, R.E., B.E.F. France.

Ross, J. Maclaren, 2nd Lieut., R.E. Tunnelling Corps.

Sullivan, L. Sylvester, 2nd Lieut., 13th Battalion Queen's R.W. Surrey Regt.

Thompson, Morris, Lieut., 4th (Res.) King's Own Yorkshire Light Infantry.

Venning, H. J., Lieut. and Inspector of Works, Staff for R.E. Services, Div. Officer R.E.

Wade, Charles Paget, East Anglian Royal Engineers.

Willcocks, C. B., 2nd Lieut., R.F.C.

LICENTIATES.

Barker, T. C., 5th Yorkshire Regt.

Brameld, Thomas, Cadet, R.H.A.

Cox, A. S., 2nd Lieut., R.F.C.

Davies, Earl B., Officer Commanding 2/3rd E.A. Field Company, R.E.
Ellison, F. B., 1st Hereford Regt.
Ferry, E. Frank, Royal Engineers.
Ford, T. W., R.F.C.
Gannon, W., Royal Engineers.
Gask, John Harold, R.G.A.
Heaton, R. A., 14th Battalion, Manchester Regt.
Ingram, H. C., Artists' Rifles.
Lennox, Gavin, Sapper, Royal Engineers.
Lloyd, B. M., 31st Royal Fusiliers.
Lockhart, J. W., R.F.C.
Mark, O. H.
Nisbet, E. C., Cadet, R.G.A.
O'Brien, Edward, 2nd London Sanitary Company, R.A.M.C.
Shaw, Malcolm G., F. Battery, Motor Machine-Gun Section.
Spurgin, K. B., Major, 103rd Battalion, C.E. Force.
Stabler, A. W., Sapper, 3rd Company, Durham (Fortress) Royal Engineers.
Taylor, Harold, Royal Engineers.
Thomas, H. W., 2nd Lieut., K.F.R.E., 2/4th Company.
Tinniswood, Alfred, Artists' Rifles.
Weston, Sidney Isidore, R.N.A.S.
Whyte, J. B., Royal Navy.
Young, Alex., Royal Engineers.

STUDENTS.

Haywood, A. N., Sub-Lieut., R.N.V.R.
Mitchell, C. H., 22nd Reinforcements, N.Z. Forces.
Read, K. H., Royal Engineers.
Winebaum, G. G., R.F.C.

R.I.B.A. STAFF.

MacAlister, Ian, Secretary, Lieut., Royal Defence Corps.
Baker, F. G., Chief Clerk, East Surrey Regt., attached to Army Pay Corps.

NEWS ITEMS.

Coombe House, Malden.

The Palm Court and principal staircase and halls of Coombe House, Malden, Surrey, are being decorated with Coatostone (imitation Stuc), supplied by The Coatostone Decoration Co., 9a, Little James Street, Gray's Inn, London, W.C.

Professional Service in France.

Mr. George Maddock, a Halifax architect, has received a lieutenant's commission, and it is understood that this appointment is of a professional character, the essential qualifications being skill in surveying and a knowledge of French. Lieut. Maddock, who will be attached to the Army Service Corps, is a Licentiate R.I.B.A. and an Associate of the Surveyors' Institute. He served his articles with Messrs. Walsh and Nicholas, architects and surveyors, and left them six months ago, when he enlisted in the Royal Engineers, under the Derby scheme.

London County Council Trade Scholarships.

The London County Council offers about 250 trade scholarships to boys between the ages of twelve and a half and sixteen years. The scholarships provide free education (with maintenance grants ranging from £6 to £15 a year), for one, two, or, in certain cases, three years at trade schools approved by the Council. The instruction provided at these schools is designed to enable boys on leaving school to take up either apprenticeships or employment in skilled trades. Instruction is given in motor-body building, the engineering and allied trades, building trades, furniture and woodwork trades, book production, silversmithing, photo-engraving, and photo-process work; and in professional cookery and waiting—to train boys as chefs—and in training for a waiter's calling. Application forms (T.2/258) and full particulars of the scholarships may be obtained from the Education Officer (T.2.), L.C.C. Education Offices, Victoria Embankment, W.C., to whom all applications must be forwarded not later than Saturday, October 14, 1916.

Concord House, Wandsworth.

In our description of the plates illustrating, in last week's issue, Messrs. Cresswell Ball and Company's business premises, Concord House, Wandsworth, S.W., it should have been mentioned that the whole of the steelwork was supplied and fixed by Messrs. Archibald D. Dawnay and Sons, Limited, steel constructional engineers and contractors, Steelworks Road, Battersea, S.W.

Damp Prevention in a School.

It would be difficult to find a building in a more exposed part than the school which has been erected on the Cotswold Hills, and the architect realised the probability of dampness if due precautions were not taken. The building has been completed sufficiently long to test severely the interior, which is perfectly dry. We hear the walls were rough-casted with Pudlo incorporated therein as a preventive against damp.

Memorial to Captain Moyna.

At the Parish Church of Heynestown, near Dundalk, County Louth, the Primate of All Ireland has dedicated a carved oak communion table, chair, pulpit, reading desk, panelling to the chancel, brass lectern, and communion rails, the gifts of Mrs. Moyna and family in memory of Captain Gerald Moyna, Royal Scots Fusiliers, who was killed in action at the Battle of Loos on September 26 of last year. After a brilliant career at Oxford Gerald Moyna became a leader-writer on the "Morning Post."

Master House Painters' Educational Scheme.

At the recent council meeting of the National Association of Master House Painters and Decorators of England and Wales (Incorporated) it was decided to throw open the apprentices' competitions to all youths between the ages of fourteen and twenty-one provided that they are definitely engaged in or preparing to follow the craft of painting. This marks a very definite broadening of the educational scheme of the Association, as previously the competitions had been restricted to the sons and apprentices of members of the Association.

"Talking it Over" among Builders.

The following letter appeared in the "Morning Post" of October 4: "Sir,—In the interesting article by Mr. E. B. Osborn in your issue of last Friday I notice, among other points made by the writer, one which deals with the difficulty, if not the impossibility, of a workman talking over a grievance with his employer. I feel sure that this difficulty does not exist in the building trade in the London district, and I am, or any member or my firm is, always ready to listen to any reasonable complaint; and I believe I can express the same opinion about my colleagues in the Association of which I have the honour to be the president. As illustrative of this attitude as existing between employers and employed as organised bodies, I quote the rule which forms part of all working rule agreements between the London Master Builders' Association and the various trades: 'Interviews to Officials (trade inserted respectively).—The Employer or his nominee will at his head office in London during reasonable hours and by appointment interview an official representative of the ——— in respect to any matter in dispute.'—Yours, etc., EDMOND J. HILL, President, London Master Builders' Association, Koh-i-Noor House, Kingsway, October 3."

Stone Restoration.

We are informed that the stonework of the Manchester branch of the London City and Midland Bank, Ltd., is being restored by The Stone Preservation Co., Ltd., 9a, Little James Street, Gray's Inn, London, W.C., under the direction and supervision of Mr. Thomas B. Whinney, F.R.I.B.A., architect.

Trades Training Schools.

From the "Report of the Judges on the Work done at the Trades Training Schools of the Worshipful Companies of Carpenters, Joiners, Painter Stainers, Plasterers, Tylers, and Bricklayers, and Wheelwrights," at 153, Great Titchfield Street, W., it is evident that the various activities of this useful institution are being carried on with great vigour in spite of the war, which has not only deprived it of many students, but has robbed it of the director of the schools, Major Herbert Phillips Fletcher, D.S.O., F.R.I.B.A., who, as recorded in this journal, was killed by an aeroplane accident. Classes are held in all building trades subjects, and the annual report upon them is illustrated with a score of photographic plates. Sir Thomas Jackson's admirable address, delivered at last year's distribution of prizes, is reported verbatim in the booklet.

The Atelier in War Time.

In order to deal more effectively with the conditions caused by the war, it has been decided to make certain modifications of the present or normal working arrangements of the Beaux Arts Committee Atelier, 16, Wells Mews, Oxford Street, W., without, however, affecting the principles involved. The Atelier will be open all day as before, and *projets* will be set from time to time. A special feature will be made of two evenings a week, Wednesday and Friday, when members will be assured of meeting their colleagues. Wednesday evenings will be devoted to sketch designs, and occasionally to the discussion of subjects in which members may be interested. Friday evenings will be occupied with the life class. Members and subscribers are eligible for election to the life class on payment of their share of the expense of the model. For 10s. per month, paid monthly in advance, the subscriber may use the Atelier at any time for working the *projets* or for any other architectural work which he may desire to undertake. For 10s. 6d. per half-year, to be paid in advance, or 1s. for each attendance, to be paid at the time, the subscriber may attend on Wednesday evenings. The above arrangements are tentative, and are subject to alteration at any time by the committee. There is great scope for increasing the membership of the Atelier, and the facilities for work can be extended in proportion to the number of members attending. The hearty and active support of all concerned is asked in maintaining the traditions and continuity of the Atelier during the war.

SOCIETIES AND INSTITUTIONS.

Liverpool University School of Architecture.

In the absence of Professor C. H. Reilly, M.A., F.R.I.B.A., on national service, Mr. Lionel B. Budden, M.A., A.R.I.B.A., is in charge of the school, and is also studio instructor. Other members of the staff are: G. Gilbert Scott, F.R.I.B.A., reader in ecclesiastical architecture; H. Chalton Bradshaw, teacher of drawing; C. J. Allen, teacher of modelling; H. J. Whitby, A.R.San.I., demonstrator in building materials; R. C. Bosanquet, M.A., F.S.A., professor of classical archæology; W. H. Watkinson, M.Inst.C.E., etc., Harrison, professor of engineering; H. E. L. Martin, B.Sc., Assoc.M.Inst.C.E., lecturer on reinforced concrete.

This school of architecture was founded and the courses in the school are designed to provide all who intend to practise as architects with a full liberal and professional education at a University standard side by side with the students of the other professions.

The teaching of design is based upon the methods of the Ecole des Beaux Arts at Paris and of the American schools of architecture adapted to meet our somewhat different requirements. By this is meant that while the student is taught design on a basis of monumental planning in order to equip him with the means by which to approach with confidence the larger problems architecture presents, an attempt is also made to give him that intimate knowledge of detail, materials and construction which distinguishes the best English work. With this double end in view, after combined study in his first year of simple construction and the elements of architectural proportion, he passes, in his second and later years, to a progressive series of designs both of a constructional and monumental character. For the latter he makes carefully rendered drawings; for the former all the detailed and working drawings necessary for a contract.

This work is carried out in the main studio of the school under instruction, and the lecture courses are designed to run parallel to it.

The students of the school, after finishing the first part of their course on which a certificate is given, have either directly undertaken salaried posts or have passed to a shortened period of pupilage in an architectural office.

The Board of Architectural Education of the Royal Institute of British Architects has of recent years taken into consideration the whole system of architectural training. The Board recommends that in addition to office work every intending architect should study for at least two years in a recognised school of architecture. An approved certificate testifying that such a course of study has been followed is accepted in lieu of a large part of the examinations qualifying for membership of the Royal Institute of British Architects, and such a course is recognised as the minimum education expected from architectural students.

The School of Architecture of the University of Liverpool is one of the five schools recognised by the Board of Architectural Education; and its courses meet all the requirements of the scheme propounded by the Board.

The courses of the school lead to the combined certificate and degree of Bachelor of Architecture (B.Arch.), and to the combined Certificate and Diploma in Architecture. The University grants the Certificate at the end of the first half of either the degree or the diploma course: students who obtain this certificate in the first class are exempted from the intermediate examination for associateship of the Royal Institute of British Architects, while during their course for the certificate they are able to prepare the four designs now required by the Institute as testimonies of study for the final examination.

The thesis for the final B.Arch. is similar to the thesis required for Associateship of the Institute, so that the same work does for both purposes.

The University offers a University studentship of the value of £25 a year to students over nineteen years of age who are taking a full day course in the School of Architecture.

A Holt Travelling Scholarship of £50 for one year, for designs and measured drawings, has been founded by Miss Holt. Students who have obtained a certificate in architecture at the end of their second or third year are eligible for this scholarship. It has been found possible in some years to provide one or more additional travelling scholarships which are awarded on similar terms.

Sir William Lever offers to the School of Architecture each year two prizes of £15 and £10 respectively for architectural schemes for the improvement of a portion of Liverpool to be designed in conjunction with the work of students of the Department of Civic Design.

A list of suitable lodgings for students is kept in the Registrar's office and can there be consulted. The Principal of St. Aidan's Theological College, which is affiliated to the University, is prepared to consider a limited number of applications from students not preparing for Holy Orders who desire to reside at St. Aidan's during a part or the whole of their course.

National Association of Master House Painters of England and Wales (Incorporated).

Mr. W. G. Sutherland, the secretary of this association, states in his annual report that of the fifty-four affiliated local associations, one has been disbanded. Seven, however, have been added, making a total of sixty--a net gain of six; and there has been a net gain of sixty-six members. The past year has been remarkable for labour disputes. Increases of wages have been conceded in no less than 127 districts since January of this year. This is a formidable figure, and two causes have contributed to it; the cost of living has greatly increased, and the requirements of the Army have created a shortage of men. Those who remain in the trade have thus acquired a scarcity value, and have not been slow to take advantage of it. An unpleasant feature has been the number of unauthorised strikes, that is, strikes without the sanction of the operatives' unions.

Liverpool Master Builders' Association.

The fiftieth annual meeting of the abovenamed association took place at the offices of the Association, 24, Sir Thomas Street, Liverpool, on October 3. The chair was occupied in the early stages by the retiring president, Mr. William A. Barnes. The annual report was adopted, as was also the treasurer's statement of accounts.

Mr. John Williams was duly elected president for the ensuing year, a vote of thanks being passed to the retiring president for his services during the past twelve months. The following officers were elected: Mr. Robert Morrison, senior vice-president; Mr. Thos. Jones, junior vice-president; Mr. G. H. Morton, treasurer; and Mr. J. Sirett-Brown and Mr. Henry Lever, hon auditors.

The meeting terminated with a vote of thanks to the secretary, Mr. Bertram B. Moss, for his services.

DUBLIN REBUILDING.

The Dublin Corporation, on September 2, passed a resolution protesting against the Government's delay in dealing with the claims made in connection with the buildings destroyed in the O'Connell Street area, and demanding that in all cases in which Sir Wm. Goulding's Committee has made a report the companies or firms interested should receive immediate notice so as to allow the sufferers to make preparations for rebuilding.

A Councillor said he was in a position to prove that, with regard to a considerable number of claims, the delay had not arisen with the Goulding Committee, but with the Chief Secretary's Department and the Treasury Office. The dates of payment were not wanted at present. What was wanted was the amount in round figures which the Government was going to place at the disposal of the sufferers, so that they might make preparations for building. Not a single man in Dublin who's property had been destroyed was at the present moment aware officially of the amount of money that he was about to receive.

Mr. Ryan said that in one case a contract had been given out, and the work building had been held up by the Ministry of Munitions, who refused to give a licence to proceed. If that was the system that was going to be adopted in regard to the buildings in Dublin no buildings would be erected until after the war.

Alderman Farrell said the delay might mean that business would drift to some other part of the city, or, perhaps, drift away to some other city.

COMPETITIONS.

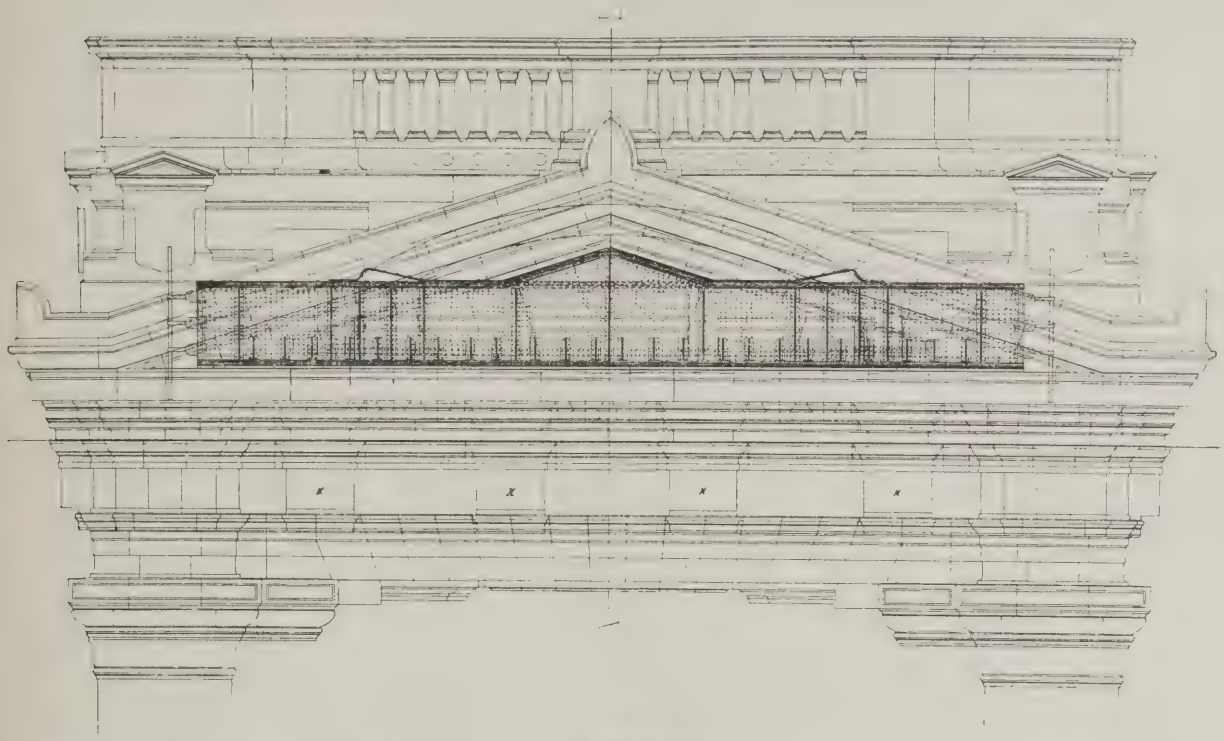
Federal Parliament House, Canberra.

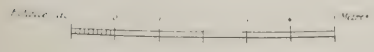
The Australian Government announces the resumption of the architectural competition to select the architect for the Parliament House in the new capital city, Canberra. This competition was opened in June, 1914, and suspended in September, 1914, owing to the War, but is now re-opened on the original conditions to friendly countries (enemy subjects not being eligible), the date for receiving drawings being extended to January 1, 1917, at London and Melbourne. Programmes can be obtained by application to the High Commissioner for Australia, 72, Victoria Street, Westminster, London, or to the Works' Departments respectively of the British Dominions, or to the British Embassies at Madrid, Paris, Rome, Petrograd, Stockholm, or Washington, from which foreign offices, as well as the High Commissioner, supplemental texts in French or Esperanto may also be obtained when prepared. Outline sketch designs only are required. Eight prizes, aggregating £6,000, are offered, the first being £2,000. An international jury of the following architects are asked to make the awards: George T. Poole (Australia), Sir John J. Burnet (Great Britain), Victor Laloux (France), Louis H. Sullivan (U.S.A.), Eliel Saarinen (Russia).

[Architectural organisations had advocated postponement until after the war. See Editorial comment in last week's issue.

CONCRETE AND STEEL SECTION

(MONTHLY.)



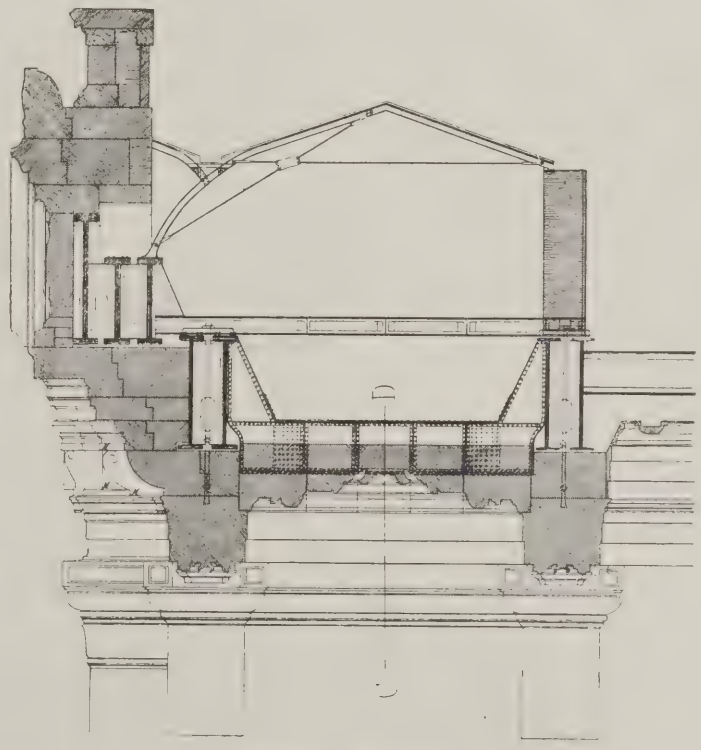


ELWORK FIFTY YEARS AGO.

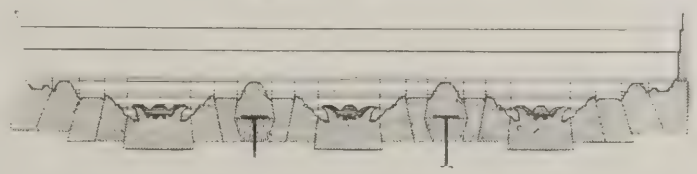
he architectural design of that magnit building, the Palais de Justice at sels, has already been illustrated by ries of plates in past issues of this nal. A portion of the construction ow shown, namely, the steelwork in upper part of the main entrance co. This part of the building ines some very heavy stonework, and illustrations on this page show the m of girders that was introduced to de the necessary support. The buildwas carried out between 1860 and 1870, it is of peculiar interest to study the ls as representing how steelwork in ing was used fifty years ago. The girders are approximately 62 ft. in h and 6 ft. in depth.

hough steel, as a regularly accepted rial of construction, did not come into ral use until the discovery, by mer, in 1855, of a cheaper process of facture, its extensive use structurally oreshadowed in England some thirty earlier, when a theatre at Plymouth constructed with iron framing ghout, to the designs of an architect d Foulston. In this building, which be regarded as one of the earliest s in "steel-frame" construction in country, the roof was of 60 ft. span. ragraph chronicling the fact appears "Literary World" for December 14, It would be interesting to know her the Palais de Justice girders are ssemer steel.

double-page illustration showing the ior elevation of the portico appeared r issue for May 6, 1914. From this remendous scale of the building can alised. Poelaert was the architect.



Section on Line A—B.



Section on Line C—D.

PALAIS DE JUSTICE, BRUSSELS: STEELWORK IN UPPER PART OF MAIN ENTRANCE PORTICO.

NEW DESIGN FOR STEEL AND CONCRETE RESERVOIRS.

The rapid growth of the oil industry and the great increase in production of crude oil in recent years have presented new problems in finding efficient and economical facilities for storing oil in large quantities.

The first large storage units were uncovered earthen sumps, built by excavating and piling the earth as levees around the rim. These proved unsatisfactory because of leakage and evaporation losses, and later designs provided a concrete lining and wooden roof to check these losses, the lining being a 3-in. concrete slab reinforced with a wire mesh, and the roof supported on wooden columns and rafters and covered with tar and gravel. A few structural containers were also built, such as the 1,000,000-bbl. reinforced-concrete reservoir erected by the Union Oil Company at San Luis Obispo in 1906, a partial failure of which occurred four years later.

Lined Sumps Unsatisfactory.

The excavated, lined sump represents an investment which offers no salvage or a possibility of removing to another locality in case of a failure in the oil supply, and with the best of care in its construction leakage results from settlement cracks in the concrete lining and bottom, and there is always the danger of blowing out the thin shell on account of a chance gopher hole or because of an inadequate backfill, or leaks may develop which will never be found until the sump is drained.

For these reasons (writes Mr. Henry B. Post in the "Engineering Record") steel tankage is being adopted by practically all California oil companies. The tanks reach the limit of economy at about 55,000-bbl., the cost being prohibitive for larger capacities because of the heavy plate required and the excessive fabrication costs. The larger the container, the lower, of course, the cost per barrel. In the cylindrical steel tank the thickness of the containing wall is a function of the depth of the oil and the diameter of the container. The larger the diameter, the greater the rim tension, hence the greater the thickness of resulting plate necessary to resist that tension.

To meet the demands for steel tankage in large units which would be efficient as well as economical, a design involving the suspended steel arch has been worked out for the Dutch Shell Company. Plans and specifications have been prepared for a 100,000-bbl. reservoir of this design, and the type has been accepted by the company as the most economical yet proposed for future storage extensions. In the new design the reservoir comprises a series of steel arches supported on concrete buttresses, the arches being placed so as to receive the load in tension and transmit it as compression to the buttresses, which in turn carry it to the ground.

Each arch is a section of the surface of the frustum of an inverted cone, which assumes a parabolic cross-section, normal to the axis of the cone when the load is applied. The buttresses are of reinforced concrete and are placed on radial lines from the centre of the container, and on the circumference of a circle, thus giving the tank a circular perimeter. Each buttress has a rounded nose on its upper edge which gives ample clearance in riveting together the nose and arch plate of the arch on each side of the buttress. The inclination of the oil face of the buttress is 45 deg. with the horizontal, so that the span of arch increases from the floor line upward.

The true curve for a linear arch sustaining a uniform load is a parabola whe maximum tension exists at the point suspension. The suspended steel arch u in this design has a parabolic cross-sectio as the load being hydrostatic is unifo across any horizontal plane at a giv depth.

Analysis of Design.

Assuming the formula for the maxim tension in a parabolic linear arch as

$$T = \frac{w}{8h}\sqrt{L^4 + 16h^2L^2}$$

in which T = maximum tension at poin support; h, rise of arch at crown line; span of arch in feet at given depth d (16 at floor line); w, intensity of pressure given depth d; t, thickness of plate quired, in inches (assumed at 0.25 in.) safe working stress of steel (assumed 12,000 lb. per square inch), and e, efficie of riveted joint (75 per cent.), assumin as 30 ft. then

$T = 0.75 \times 12{,}000 \times 0.25 = 2{,}250$ lb
$w = 30 \times 62.5 = 1{,}875$ lb. per square f
and substituting in equation (1) we h

$$2250 = \frac{1875}{8h}\sqrt{16^4 + 16^2h^2}$$

and

$$h = 0.1039\sqrt{16^4 + 16^2h^2} = 4.05 \text{ f}$$

The half span $(L/2) = 8.00$ ft., so substituting these values in the for $y = hx^2 \div (L/2)^2$ it is possible to f the x and y abscissas and ordinates t termine the true curvature of the The rise and span increase proportion up the arch to the top, due to the slo the arch face and the fact that the tresses radiate from the centre of the

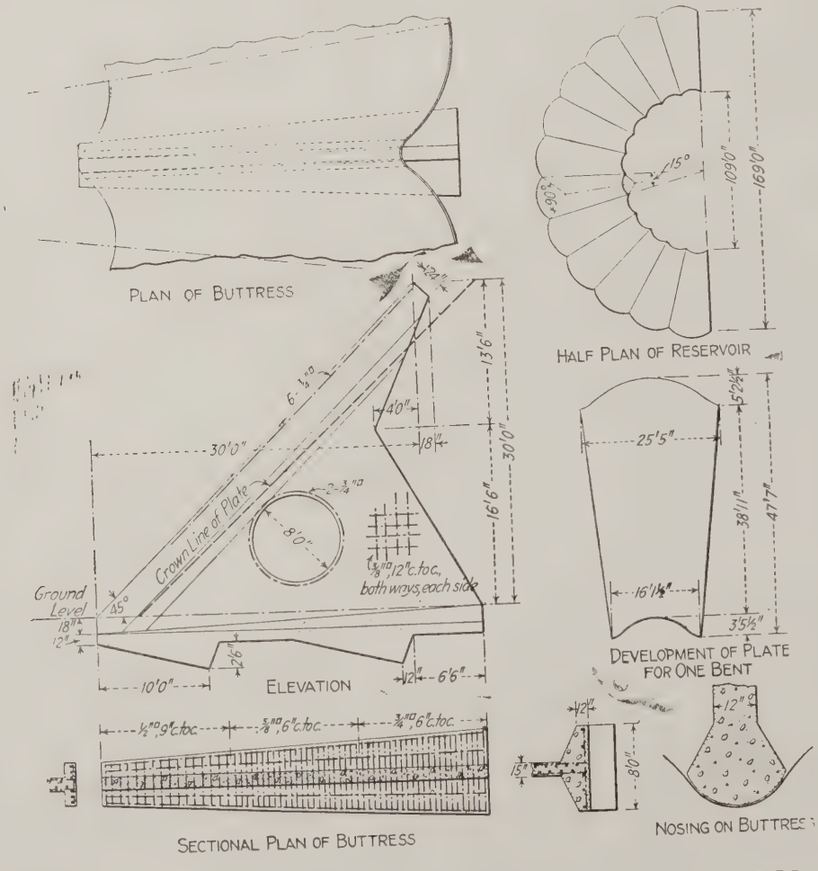
Plate Thickness Constant.

In the foregoing calculations, t thickness of the arch plate, was ass to be ¼-in., because that is as thin could practically be taken. This thic remains constant and is independe the diameter of tank under a co depth of oil, being only a function depth and the curvature and span individual arch. As each arch is sym cal with respect to its supporting bu there is no condition of unbalance ing and no component of pressure to cause rim tension. These fac notable as compared to the cylindric tank, in which the thickness of con wall varies directly with the diam the container.

The buttress is designed to b against overturning and sliding, sultant dead load of 780,000 lb. cutt footing at the middle of the centre The stepped footing, as indicated accompanying drawing, gives an factor of safety against sliding average base loading is 1.85 tons per foot, which can be increased or de as the bearing power of the sub-b permit.

Temperature stresses are absorbe steel arch, which expands or contra a rise and fall in temperature, w buttress is reinforced with steel to t of temperature changes. The fl be constructed of riveted steel desired thickness, or a concrete f be used. In both instances an ex joint must be provided for at the of floor and wall.

The question of evaporation and portance attached to it by oil co determine the preferable type of gas-tight steel roof is best, but e at the present market price of ste

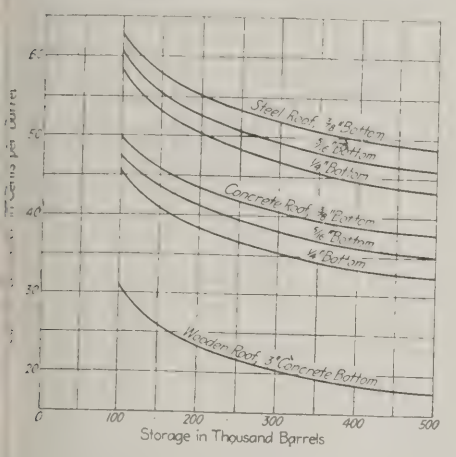


NEW TYPE OF STEEL AND CONCRETE CONSTRUCTION FOR RESERVOIRS.

vooden roof, as now used on large reervoirs, is not gas-tight and is a fire nenace. A concrete roof, supported on tructural steel columns and rafters, would, ecause of its low co-efficient of conducivity cut down the evaporation losses to a ninimum, would be within the limits of conomy, and would have the added feature f being fireproof.

Approximate Cost.

The series of curves, as shown in the ccompanying diagram, give the approxi-



ıate cost of the suspended steel arch conıruction for various thicknesses of steel ɔttom and steel or concrete roof. The wide ange of thickness of steel for use in the eservoir bottom is given where salt water present in the oil. The desirable thickess may be as much as $\frac{3}{8}$-in. in a structure here a $\frac{1}{4}$-in. plate would otherwise suffice. he lowest curve is based on the steel wall ıd concrete buttress design, with conete floor reinforced with Clinton wire ıesh, and has a wooden roof covered with r and gravel. At the present market ice of steel, steel tankage in 55,000-bbl. nits costs approximately 55 cents per arrel storage capacity. In the suspended ch system, with gas-tight steel roof and in. steel floor, the cost at 125,000 bbl. likewise 55 cents, while for larger units considerable saving is effected. If a conete roof is used the cost per barrel is ½ cents, decreasing to 32 cents at a ɔ,000-bbl. capacity tank. To these costs salvage value on the steel at the expiraɔn of the life of the structure may be ɔplied, thus reducing the first cost conderably.

The advantages of a structural container this type over the excavated, concreteıed sump are that in the former the ɔrage is all above the ground, where a ak may be readily detected and calked; e units are all standard, so that rapid ection is possible, while the tank may at y time be dismantled and the steel used ain at a new location.

This system of construction makes it posble to store oil in large steel units and reces the cost for two reasons—first, beuse of the economical use of steel in the all construction; and, second, because of e large capacities of units feasible with is type of structure. The design has en developed and patent applied for by e writer.

ENQUIRY ANSWERED.

Origin of Symbols and Letters.

SUBSCRIPTA (Barnsbury) writes: "I am formed that at a meeting of some institun one of the speakers gave an interestg account of the origin of the symbols d letters commonly used in mathematical formulæ. Could you direct me to a report of this speech?"

—This subject was dealt with in a very interesting way by Mr. E. Fiander Etchells, A.M.I.Mech.E., M.C.I., etc., at a meeting of the Concrete Institute held on April 24, 1913, in a discussion on the interim report of the Science Standing Committee concerning standard notation. Mr. Etchells showed that there has been a gradual evolution from the earliest times, and that without any very great break or rupture. We cannot, he said, fix arbitrary notations; we are bound indissolubly to the past. From what has gone on in the past, we must still go onwards, making haste slowly towards the future. The hieroglyphics or sacred carvings of the Egyptian priests were careful representations of animals, plants, or other objects, and were used to convey a certain meaning or transmit an idea. The hieratic writing of Egyptian priests is derived directly from the earlier hieroglyphics by conventionalising and simplifying the drawings. For example, the hieroglyphic representation of a lioness is simply a faithfully carved representation of that animal. In the hieratic writings on papyrus this became conventionalised. By a collection of such graphic symbols, complex ideas and even sentences could be represented. Then, some genius seems to have hit upon the happy idea of using the picture to represent the initial or dominant sound in the name of the object represented. For example, the lioness sign would represent the initial sound L in the word lion, Latin *leo*, Greek *leōn*. Men were then able to represent words which were, in their turn, the vocal symbol of an abstract idea. In the process of time the symbol seems to have lost more and more of its animalistic form, until nothing but some striking remnant is left. In the case mentioned all is omitted except two lines indicative of the bent right foreleg of a *lion* couchant (**L**). Concurrently the symbol seems to have lost all significance except as a written sign for the initial sound heard in the original name of the animal, plant, or object represented. Ultimately, we use the symbol L to represent any other words which begin with the same sound as the original word *leōn*. For example, we use L to represent the *length* or a length greater than lower-case *l*.

We have, in fact, re-discovered the initial-letter principle. In brief, the drawing was originally the representation of an animal, then it came to represent merely the initial sound in the name of the animal; now we use the symbol to represent any other word with the same initial sound.

This outline of literal evolution is necessarily fragmentary, crude, and sketchy, but it roughly indicates the path along which the human mind has travelled. The derivation is not always so simple as this, and there are a hundred cross-currents rounding off the letters to forms which seem to lose all trace of their origin. India, Arabia, Greece, and Phœnicia have all contributed something towards the enrichment of modern mathematical notation. For example, we have at least nine kinds of the letter s in ordinary use in algebra, quite apart from any question of co-ordination in their use.

Some of the initial letter symbols in the Standard Notation have stood the test for hundreds of years of use in their present signification. For instance, Newton, born 1642, introduced the symbol capital N as a *numerical* coefficient. John Bernouilli, born at Bâle in 1667, introduced the lower-case *g* to represent the *gravity* coefficient. Euler, born at Bâle about 1707, introduced the symbol π (*Pi*) to indicate the *peripheral* ratio of a circle—that is, the ratio of the circumference of a circle to its diameter. It struck me as rather curious that these two mathematicians, coming from Bâle early in the seventeenth century, should have given us two symbols which will conform with the recommendations of the International Association of Testing Materials also at Bâle a few years ago—I refer to the letters *g* and π (*Pi*). Lagrange and Euler introduced the symbols F and *f* to represent *functions*. The seriate principle of using *a*, *b*, and *c* to represent known quantities, and *x*, *y*, *z* to represent unknown quantities was introduced by Descartes in 1637. A translation of Aristotle's mechanics also contains the letters α, β, γ, δ, for a set of related quantities. Side by side with the literal symbols there are always existing a few graphic or picture symbols. A few modern instances of international significance have been adopted in the Report.

These symbols are, of course, only suited to the needs of limited sections of the community. They are pictures not devised by primitive races, but by a few abstract thinkers, seeking rapid means for the transmission of their thoughts to their fellows. One of the earliest documents embodying graphic symbols was written by an Egyptian priest named Ahmes, who flourished about 1,100 or 1,700 years B.C. His book is called, "Direction for Knowing all Dark Things." It is on papyrus, and it is believed to be a copy, with emendations, of an older treatise written about 3,400 years B.C.—that is, about 5,300 years ago. The papyrus of Ahmes shows that the Egyptians had some idea of algebraic symbols. Equality is represented by the sign **IL.** The unknown quantity is represented by a symbol which means a heap. Additions are represented by a pair of legs walking forward, subtraction by a pair of legs walking backward. Notice here the close analogy to the modern idea of minus quantities as motion in a reverse direction.

[This speech was printed in the "Transactions and Notes" of the Concrete Institute, vol. v., part 2, published at the offices of the Institute, Denison House, 296, Vauxhall Bridge Road, Westminster.]

REINFORCED CONCRETE VESSELS

The following communication appears in the "Glasgow Herald":

So-called "stone"—or, rather, reinforced concrete—vessels are not quite new. Half a dozen years ago several vessels were built both in Europe and America of reinforced concrete. They were principally of the barge or pontoon description, and the plans and details were published in some of our technical engineering journals. There is no reason why vessels of considerable size—say, up to 1,000 tons—should not be made of reinforced concrete; in fact, for certain descriptions of cargo they might have advantages over steel ships. There would be no danger from "sweat" or rust, as they would not require to be painted, and of course any number could be made off the same wooden or sheet-iron moulds. That of itself would be an advantage in building "standard" ships. The bottom and sides of the barges are built up in the same way as a reinforced harbour pile or bridge or city building, with which we are all familiar. The sides of the vessels are about $2\frac{1}{2}$ in. to 4 in. thick, and

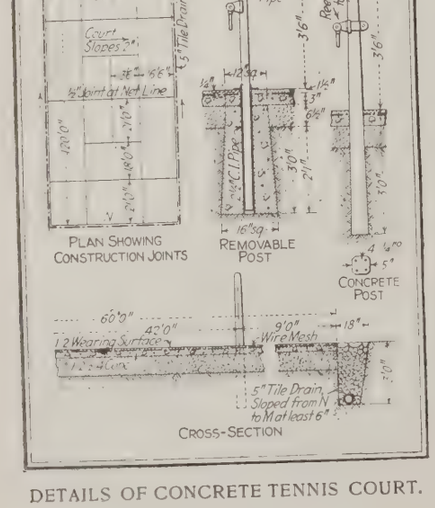
the steel rods inside are 1 in. or so in diameter, spaced about a foot apart, with heavy wire netting made of ¼-in. square iron between the rods. In some cases this wire netting is made in large plates of expanded metal, and the weight is practically the same as a steel vessel of the same dimensions. Although the sides are greatly in excess of the ⅝-in. or ¾-in. plating, there are no heavy angles and reverse bars or web frames and stringers, and the decks and hatches, etc., do not present any great difficulties. Experiments on piles and bridges have conclusively proved that reinforced concrete structures can and do stand a considerable blow without cracking, and can be bent a great deal more than one would think without fracture.

There are examples of reinforced vessels in many parts of the world. Several ancient coracles have been found not made of wickerwork connected with skins, but covered with clay, some of them evidently sun-dried, and turned into brick! Perhaps the vessel in which St. Columba travelled from Ireland to Iona was made of wickerwork and clay. It is almost certain that the ark in which Moses was found at Rodah was made of wickerwork plastered with Nile mud and sun-dried, so perhaps Moses was the first passenger in a "stone" ship. The writer has seen several gyassas and feluccas on the Nile caulked with Nile mud, and in some instances where a plank was rotten it had been cut out to various lengths and the place bricked up with clay bricks and caulked with Nile mud. Prehistoric man may have crossed rivers in vessels made of clay reinforced with reeds; he would get the idea from birds' nests, such as swallows', made of mud and stiffened with straw, so perhaps we have still something to learn from these early "stone" shipbuilders.

MORE ABOUT CONCRETE TENNIS COURTS.

A short time ago, in our issue for August 16, we gave some particulars of the construction of concrete tennis courts. The following is a further description, from the recent number to hand of the "Engineering Record," of New York:—

Concrete tennis courts now under construction in Chicago, Rockford, Ill., Minneapolis, Pittsburgh, and other places give evidence that a new field is being invaded by reinforced-concrete construction. The accompanying drawing illustrates typical details proposed in a suggested design by the Portland Cement Association. The finished courts have been surfaced by a rotary surfacing machine for the purpose of giving a perfectly smooth finish which can, it is stated, be waxed when desired and used for a dancing floor. Other concrete courts for the Chicago Tennis Club will be finished with curbs high enough to allow flooding with water in the winter season for skating purposes.



DETAILS OF CONCRETE TENNIS COURT.

Specifications covering the preparation of the sub-base and the laying, finishing and hardening of the court have been prepared by the Portland Cement Association. As shown, the concrete base is a 1 : 2½ : 4 mix, wet enough to flush readily under slight tamping, but which can be handled without causing a separation of the coarse aggregate fresh from the mortar. The reinforcement of wire mesh or wire fabric is placed lengthwise of the courts and not less than 1½ in. from the finished surface. A wearing course of 1 : 2 mortar mixed dry is placed 1½ in. thick on top of the 3 in. concrete base before the latter has hardened. Construction joints, as indicated on the plan, should coincide with the court lines. The surface is worked with a wood float and brought to a smooth plane by the use of a steel trowel. A grade of 2 in. transversely is provided for the drainage.

Clay subgrade should be excavated to a depth 11 in. below the finished surface of the court, while a sand or gravel subgrade will support the slabs without more than a 4½ in. excavation. The fill should be of cinders or coarse gravel. The subgrade should be uniformly compacted before a fill is started and the fills made of compacted layers not more than 6 in. thick.

Finally, the usual precautions to ensure proper curing conditions should be taken—the surface covered with at least 1 in. of wet sand or 2 in. of wet sawdust, and kept wet by sprinkling for at least ten days.

FATAL COLLAPSE OF A ROOF.

An accident occurred at Warrenby, as a result of which two men were killed and one injured. At Redcar, Mr. W. Richardson subsequently held an inquest on the body of David Henry Dunbar (25), a steel works erector, residing at the Vane Arms Hotel, Stockton.

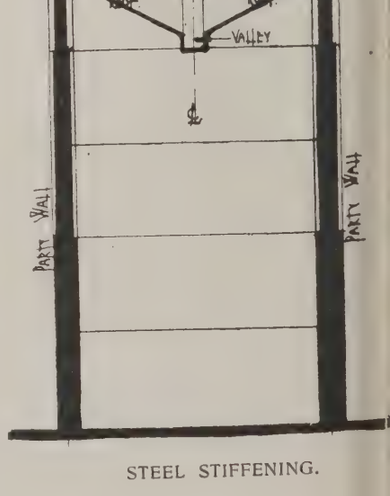
The manager of the constructional department which was erecting a steel-frame building for workshops at Warrenby, stated that amongst those who were engaged in the work were the deceased and two others, who were also involved in the accident. These three men were arranging roof trusses on the structure on the Sunday afternoon. About 2.30 witness was close to them, when he heard the sound of splintering timber, and, looking up, he saw the roof trusses, the timber struts and purlins in the course of collapse. The three men were falling with the material, and the next instant there was a mass of wreckage on the ground, amongst it the deceased and his workmates. Dunbar was dead before he could be taken from the works. The fall was approximately about 55 ft. He inspected the débris some time afterwards, but found no trace of defective work anywhere. In his opinion Dunbar had been getting ready to put on another purlin, and, thinking that a timber strut would probably be in the way, he untied the lashing and had forgotten to make it secure again. The vibration of the men working on the top had thrown the strain upon the other strut, and it had been too much, the structure being brought down.

The foreman of the works said he was present when the accident occurred, and in his opinion one of the struts had been let loose and not retied. He did not think any of the men on the top had a right to undo a fastening unless sure the structure was strong enough. Witness added he should have thought Dunbar would have understood the gravity of undoing a strut. Of course, it was only supposition that he was the man who did unlash it, but proof that the strut had been unfastened at one end was afterwards found, because the timber was discovered hanging unbroken by the other fastening.

A verdict of "Accidental death" was returned by the coroner's jury. H.M. Inspector of Factories (Mr. D. T. C. Eva) and representatives of the firm were present at the proceedings.

STIFFENING A HOUSE.

The accompanying sketch shows a method adopted by Messrs. Trehearne and Norman some years ago in Cheyne Walk, Chelsea. This was a case of an old town house with lean-to roofs against each party wall. The central gutter was supported by a beam from front to back which had originally been intended to be supported midway by some wood partitions. Age had done its work and instead of being supported by the partitions the roof had sagged and pressed down the whole of the centre of the house, including the floors and partitions, so that there was no fall to the gutter and the continual movement caused partitions to crack, floors to sag, doors to jam, and ceilings to fall. As the building was occupied at the time a remedy became urgently necessary, and no steel beam could be used inside the building without pulling down internal partitions. The remedy shown—a steel beam to which the old gutter beam was held by iron straps—was extremely economical, costing only a few pounds. There was little or no inconvenience to the occupants whilst the work was being done, and there has been no trouble at all since. There being a high parapet to the house both front and back the beam cannot be seen from anywhere.



STEEL STIFFENING.

THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, October 18, 1916. Volume XLIV. No. 1137.



THE LATE MR. PHENÉ SPIERS.

(From the Medal by Professor Lanteri.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 18, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1137.

EDITORIAL.

MANY minds are concentrated on the gigantic and complex industrial problems that must be solved very promptly and more or less successfully if we are to hold our own in industry and commerce during and after the war. Generally speaking, the public are kept pretty much in the dark as to what is being thought and done for the advancement of national prosperity, except for the casual and fragmentary utterances that appear in the public Press. These, being frequently contradictory one to another, simply serve to make confusion worse confounded, and we are therefore the more grateful for the organised and concerted survey of the situation which has been published under the direction of the trustees of the Garton Foundation. At the instance of the Garton Foundation, a group of men came together for the purpose of discussing the industrial situation in this country at the close of the war—men of varied views, in touch with both the capitalist and employing classes and organised labour, as well as with financial, economic, and administrative circles. As a result of their inquiries, and of correspondence and discussion with representatives of all parties to industry, they became convinced that the return from war to peace conditions would inevitably involve great difficulties, which might result, if not carefully and skilfully handled, in a grave outbreak of industrial disorder.

* * * *

They therefore printed a Memorandum embodying the results of their investigation, and this they caused to be circulated privately among representatives of the various interests involved, from whom a large number of criticisms and suggestions have been received, and in the light of these the Memorandum was revised, and has now been issued to the public as a contribution to the discussion of what is, after the immediate conduct of the war, the most urgent question of the day. No doubt this Memorandum will serve an excellent purpose in helping to crystallise or to consolidate ideas that were useless in solution, and to criticise so well-intentioned an effort seems ungrateful. Nevertheless, it must be said that the pamphlet lacks the authority it might, or might not, have derived from a disclosure of the names of those to whom we are indebted for the facts and opinions set forth; and that too much space is occupied by mere disquisition. There is in it too much of the airy theorist in economics, and too little really practical information as to ways and means. Its preachiness may perhaps be condoned on the plea that the economics of industry having been sadly neglected by practical men the elementary propositions of the essayists have a distinctively educational value. Practical men, however, are notoriously impatient of mere doctrine, and very few of them, we fear, will give this pamphlet the study it deserves. Possibly it is intended to b preliminary to more definite guidance for th direct application of the principles it so ably set forth. That is a suggestion which we would rathe not press as regards the Garton Foundation. It surely not too much to suggest that a Governmen which has circulated broadcast, at phenomenally lo cost, pamphlets relating to the war, and to th housing question, should issue, and scatter through out the kingdom, pamphlets affording all possibl help towards industrial and commercial reorganisa tion.

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As if to atone for the prevailing dearth of arch tectural utterances, Mr. John B. Gass, F.R.I.B.A., delivering his presidential address to the Manchest Society of Architects on October 11, considerabl exceeded the average length of such discourses. N tnat he can be accused of prolixity; but he had deal with an unusually heavy crop of materials- the accumulation of many months of rather wild not rankly luxuriant growth, upon soil that has bee as the expression goes, "poisoned by shell-fire That, at the outset, he referred to architecture as "Master Art," not as "the Mistress Art" beloved an eminent past-president of the R.I.B.A., is perha symptomatic of the masculinity that even ladies affe in war-time; and it sorts well with Mr. Gass's pl for "a strong and virile race of architects," imbu with the more vigorous life begotten of the war, a capable of expressing it in their work. There is hint that architects will come out of the conflict wi revised notions of national service, and that th will show more inclination than heretofore assume the full duties of citizenship. It has alwa seemed to us that architects, as a class, have t modestly refrained from taking that position public affairs to which their talents entitle them. all professional men, they are the most diffident a retiring. It is a defect of the artistic temperame but it is untoward for the individual and for t community. That no one has a moral right shrink from public service, to stand aside as a m onlooker at the great game of life, has been ma manifest by the exigencies of war-time, and lesson will assuredly not be lost upon architec who, for their encouragement, will remember t custom of the ancient Greeks of exacting pub service from all who were capable of rendering it

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If this Greek conception of the duties of citiz ship had been prevalent when the war broke out, Gass might have had no occasion to complain of failure of the Government to avail itself fully a freely of the services of architects. From the ou we have frequently expressed regret at the compa tive neglect of so much energy and talent as

presentative professional organisations placed at the disposal of the nation; but we do not reservedly agree with Mr. Gass in laying all the lame on the Government. To a great extent the profession itself was responsible. Its offers of help were unimpressive because they were made rather timidly and vaguely, and because architects had figured with so little prominence in public affairs as to excuse the Government's ignorance of their value in such a crisis. In fact, the war caught the nation napping—unaware alike of its dangers and its resources—and it is only at this moment that the qualifications of architects are in a fair way to become recognised as a great national asset which is either rusting for want of use or is being wastefully misapplied.

* * * *

Among the more purely domestic matters touched upon in Mr. Gass's very practical address were the familiar topics of professional training, upon which he sets a high value; registration, of which he seems to be a whole-hearted advocate; conditions of contract, in which he is anxious to see reform; formal contract between architect and building owner, for which he advocates a model form of agreement; a differential scale of charges distinguishing between large and small operations; the naming of buildings with the architect's name; and rights of light and air. On most of these subjects his views will, we think, meet with general approval, with the possible exception of a form of agreement for architects. On this particular point exhaustive discussion must precede a just conclusion. On the other hand, legal decisions within recent years have emphasised the desirability of defining more clearly the position of the architect, and of bringing his responsibilities within equitable limits; on the other hand, a formal contract might rob him of much freedom of action, besides saddling him with more onerous obligations. Further, it would probably affect, not for the better, his legal position with respect to the contractor; and—at all events as a matter of sentiment—it would rather tend to remove him from the category of professional men. Doctors do not bind themselves in formal contracts with their patients, nor lawyers with their clients. On the whole, we are disposed to think—but we are open to conviction to the contrary—that some more convenient means should be found of protecting the architect from oppressive legal responsibility.

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Mr. Gass's observations on the reluctance of the Government to accept architectural advice and assistance gains considerable emphasis from the latest contract revelations, which occupied a great deal of space in last week's daily newspapers. Upon Sir John Jackson's position in the matter there has been much excited and one-sided comment. His firm very properly demand a judicial investigation, and, the matters at issue being therefore in a manner *sub judice*, reticence in the interim is the only decent attitude. It is permissible to remark, however, in a general sense, and without reference to this particular case, that most if not all the friction about contracts would have been avoided but for the self-sufficiency of Government departments. If expert advice had been sought and followed, the Government could, at the worst, have taken shelter behind that effective carpet. As they failed to adopt this rudimentary precaution, they have only themselves to blame if they stand fully exposed to all the fiery darts of the excited, including rabid political opponents; and also they have made themselves a fair mark for fair criticism, of which, it is to be feared, they get serious little at the best of times, and none at all just now. With regard to the Jackson contracts there is not the faintest suspicion of foul play; the sole question relates to business bargaining between the respective parties, and it is to be hoped that the contractors will be afforded the opportunity they ask of making public their own statement of the case. Until this measure of fairplay has been accorded them we shall abstain from lending currency to the *ex-parte* statements in the Blue Book.

* * * *

Failure to consult the men who know is also charged against the Ministry of Munitions by Messrs. G. Macfarlane and Son, contractors, of Manchester, in a letter to the "Manchester Guardian" of October 9. They contend that "greater speed in the execution of works, besides greater economy, could have been and still can be effected by the proper mobilisation of the building industry," and they allege that there has been a vast amount of waste, as well as the infliction of an excessive amount of hardship and injustice upon the trade, which competent advice might have avoided. They go much further in declaring "that had the Government sought the assistance of the National Builders' Federation when they sought the assistance of the engineering and textile industries, every demand could have been instantly met, and the urgent need for munitions and other national buildings . . . would long ago have ceased to exist." This is perhaps an over-sanguine estimate, but one is convinced that it is substantially accurate. It would seem almost incredible that the Ministry should have omitted to make use of the highly organised National Federation of Building Trades Employers, if we did not know that the proffered services of organised architects had been similarly neglected. But, as Messrs. Macfarlane observe, it is still possible to mobilise the building industry with excellent economic effect, and we trust that that course may be promptly taken. We would suggest the immediate establishment of a clearing-house for the building industry, to be conducted by architects and builders appointed by their respective organisations. It would soon be found possible, we are confident, to release for private work both men and materials, not only without detriment to national service, but to its advantage, and to the very great advantage of national economy.

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About the idea which we ventured to put forward a fortnight ago, of signalising the renascence of Great Britain by town-planning it from end to end on one great central scheme, there is a strong fascination which impels us to recur to it for a moment. No doubt the idea will be scouted as visionary, but we contend that it is essentially practical and utilitarian. That it would entail vast expenditure is perfectly obvious; but, even so, it would be less costly than the aggregate of the sums spent on the numerous more or less isolated, independent, or overlapping schemes that are already in contemplation; the main point being that, in the interests of economy and convenience, these schemes should not be independent. A grand general scheme should prove highly economical pecuniarily as well as otherwise; isolated efforts being necessarily extravagant of energy and expense. Already the necessity for revision has been revealed as a matter of military urgency. Facilities for mobilisation, for the more direct transport of troops and munitions, for aerodrome, barrack, and hospital accommodation, must be perfected on a rational plan, and the newer needs of commerce must be met. Here, then, is a grand opportunity for Great Britain to set her house in order on town-planning principles.

HERE AND THERE.

THE Arts and Crafts Exhibition Society are in possession of Burlington House. That in itself is a bomb-shell. And a trip through the galleries will show a display of "liveliness" that is quite exhilarating. The galleries themselves are no longer the familiar places where one has been accustomed to see the familiar pictures year after year. A background of dull gold wallpaper and rather drab Italian Revival cornices and door-frames was not what the Art-and-Crafty ones would care for, so, under the direction of Mr. H. Wilson, they have cunningly set up battens against the walls and covered up the old features with canvas and muslin. The result is as though Pierrot had run amok in the State apartments. The long room next the circular hall is transformed into a weird Hall of Honour, or whatever one may term it in the absence of a catalogue. Four arcaded bays are arranged on either side, filled by large decorative paintings by Mr. Harold Speed, Professor Moira, and others, and above the platform at one end is a golden Madonna on a corbel, with a starry sky over all; while at the opposite end is a sort of apse, filled with a lunette painting and supported by little pillars of a peculiar Order of architecture—the Arts-and-Crafts-cum-Knossos Order. Below are a pair of doors of cast bronze, in the Arts-and-Crafts-Ghiberti style, through which one passes to what has nitherto been known as the Central Sculpture Hall. What it is now I am unable to say. Literally it has got the blues. Altars are to be there—to the Unknown Gods, so far as I can discover, though a label on the only one, a bluey-black one, which was finished at the time of my visit (several days after the formal opening of the exhibition) told me that it was to the Mother of Humanity, who is to lead us to ecstasy through Beauty and Poverty: all of which I, a very mundane person, am quite unable to understand, though I certainly know that Poverty is not the peculiar distinction of the Art-and-Crafty ones: on the contrary, they are the unexcelled exponents of the art of being simple in an expensive way.

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But, says a friend, this sort of criticism is quite unfair, and not even intelligent. Here are a lot of people making an earnest endeavour to improve the arts and crafts of the country, and a mere scribbler walks casually by their exhibits and goes off to make fun of them—the easiest thing in the world to do. My reply is, that it is perfectly impossible to be a polite neutral in the matter. The Arts and Crafts Exhibition is an extremely vigorous performance, and I would pay my tribute to the talent which is there displayed. It is an exhibition which everyone ought to see, and it is an exhibition which provokes one into being either an enthusiastic well-wisher or a hostile critic. It all depends on the faith that is in you as you pass the turnstiles, for, unlike the congregation of Goldsmith's village parson, those who would come to scoff do not necessarily remain to pray.

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The display is quite bewildering in its range, and I cannot attempt here to give any detailed descriptions. Suffice it to say that the exhibits range from jam-pots to tapestries, from lockets to candlesticks for a cathedral, from book-plates to posters and wall paintings yards in length. Mention of the last at once brings into notice Mr. Augustus John, Mr. Rothenstein, Mr. Charles Sims, Mr. James Guthrie, and other clever artists. Mr. Augustus John is, I should know, foremost among those who would lead us to the Art of the Future: he is an artist of untameable force and significance; but what is the peculiar value in his canvas at the Arts and Crafts Exhibition I am unable to say. In the centre there are a group of women like Irish emigrants, while on one side are some British workmen in a sort of cave, and on the other a group of people, drinking, against a strange background of houses. But I am unable to appreciate its significance or its beauty. Mr. Charles Sims and his collaborators have painted an extremely decorative group of "Crafts," and even a prude might say that it was rather beautifully immodest. Such things as these, however, constitute the *pièces de résistance* rather than the main bulk of the exhibits, which are of chairs, bedsteads, wardrobes, cabinets, hangings, metal-ware, mirrors, books, printing, glassware, dolls, and a thousand other kindred things. And here let me say how excellently all these things are made. The very best materials are used, and the workmanship is of superb quality. I do not agree with the underlying principles of the Arts and Crafts Exhibition Society, but even the most biased critic must say that there is nothing shoddy about the whole exhibition; the furniture is splendidly finished and shows us inside and out the wood it is really made of; the inlaying, the embroidering, the colouring, the metal-chasing, are all unexceptionable. What I criticise is not the workmanship of typical exhibits but the form of them. The Arts and Crafts enthusiasts seem to me to be intent on cutting themselves off from tradition, and they concentrate on craftsmanship quite oblivious to or unrespecting of graceful form. Put an Old Sheffield plate candlestick against an Art-and-Crafty candlestick, and my meaning is at once illustrated. I prefer the Sheffield plate; it is just as well finished as the other, and much more pleasing in form. And when we come to deal with furniture we find very much the same sort of comparison set up in the mind.

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There are some most interesting little rooms contrived in what is called the Large Gallery at the usual Academy exhibition. Mr. and Mrs. Archibald Christie and Mr. F. W. Troup exhibit a bedroom for a small country house and an octagonal vestibule, Mr. Allan Vigers shows us a music-room, Mr. and Mrs. Alfred Powell an ante-room, the Women's Guild of Arts a bedroom. Space forbids any detailed account of them, but this may be said of them all in common—they express a very pleasing decorative scheme, tastefully carried out. But they are rather precious also. In the first-named are a painted iron bedstead with slender twisted posts supporting a white embroidered canopy, some oak wardrobes as free from mouldings as a modern hospital door, and some painted chairs; quite a "sweet" bedroom, as I heard a lady say. And the lady also said that the music-room was charming, though I rather took exception to the frieze of birds: the dicky-birds are indeed a fatal snare for the Arts and Crafts. Nor could I imagine anyone except an unredeemable enthusiast being contented with the bedspread which the Women's Guild of Arts has provided, whereon is embroidered a prayer for the beasts who bear, like Man himself, the burden of the day. This sort of thing is too Tolstoian for me. But we are, of course, but children of a large growth, and for that reason I suppose the model nursery, with its most delightful dolls and other toys, had an immense fascination for me.

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As a concluding remark let me say that the strange combination of an affected peasant simplicity with a riot of symbolism running into ritualism does not, in my opinion, take us in the right path. The Art-and-Crafty ones do not seem, to me, to be quite real. One might perhaps assume this from the only exhibits that are not labelled—some of the visitors.

UBIQUE.



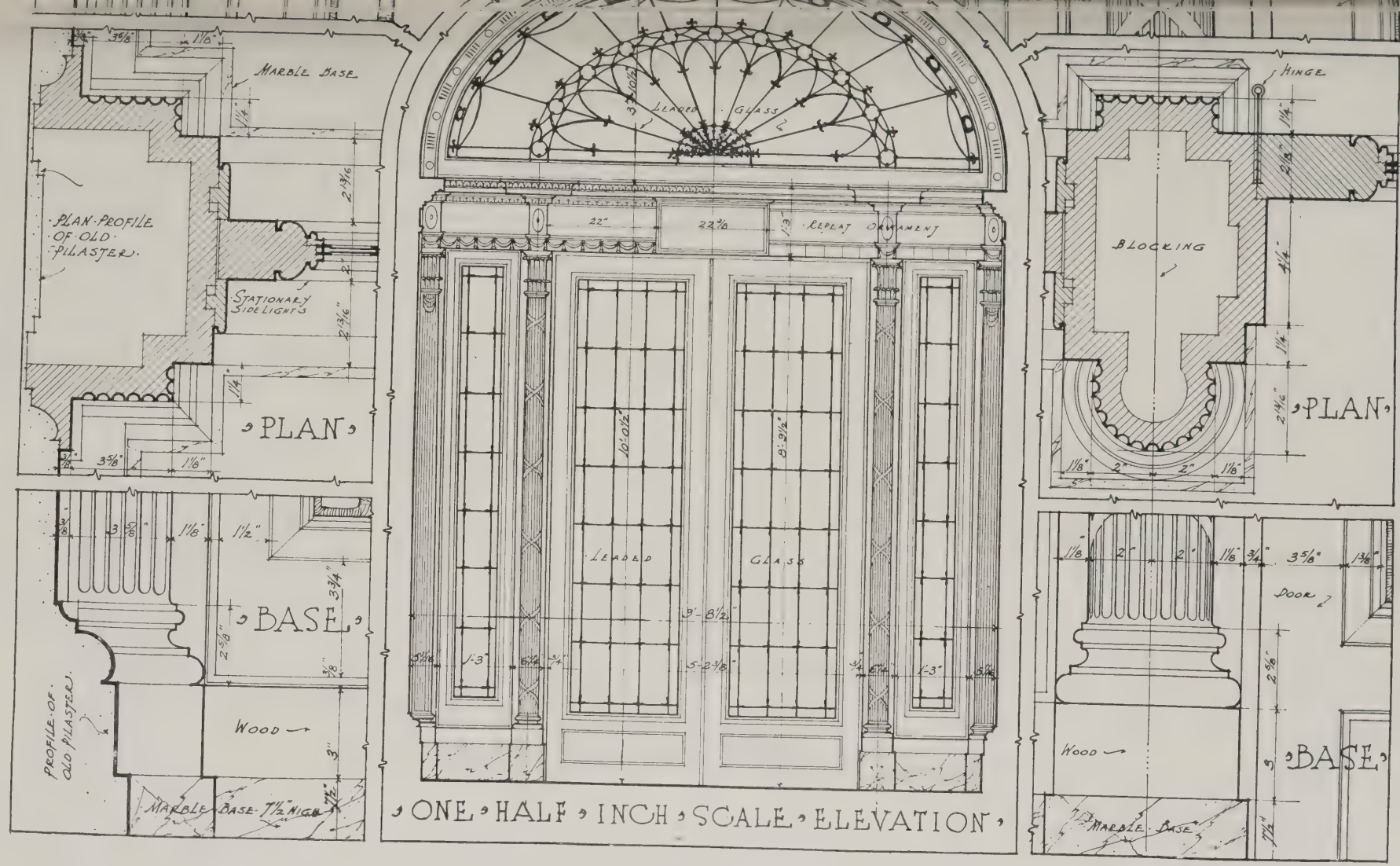
MODERN AMERICAN ARCHITECTURE (SERIES II.). XVII.—SCREEN IN CORRIDOR, CITY HALL, NEW YORK.
GROSVENOR ATTERBURY, ARCHITECT.

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plement to "The Architects and Builders Journal," January 15, 1910.



DOORS AND DOORWAYS. IX.—DOORWAY IN MAIN CORRIDOR, NEW YORK CITY HALL.

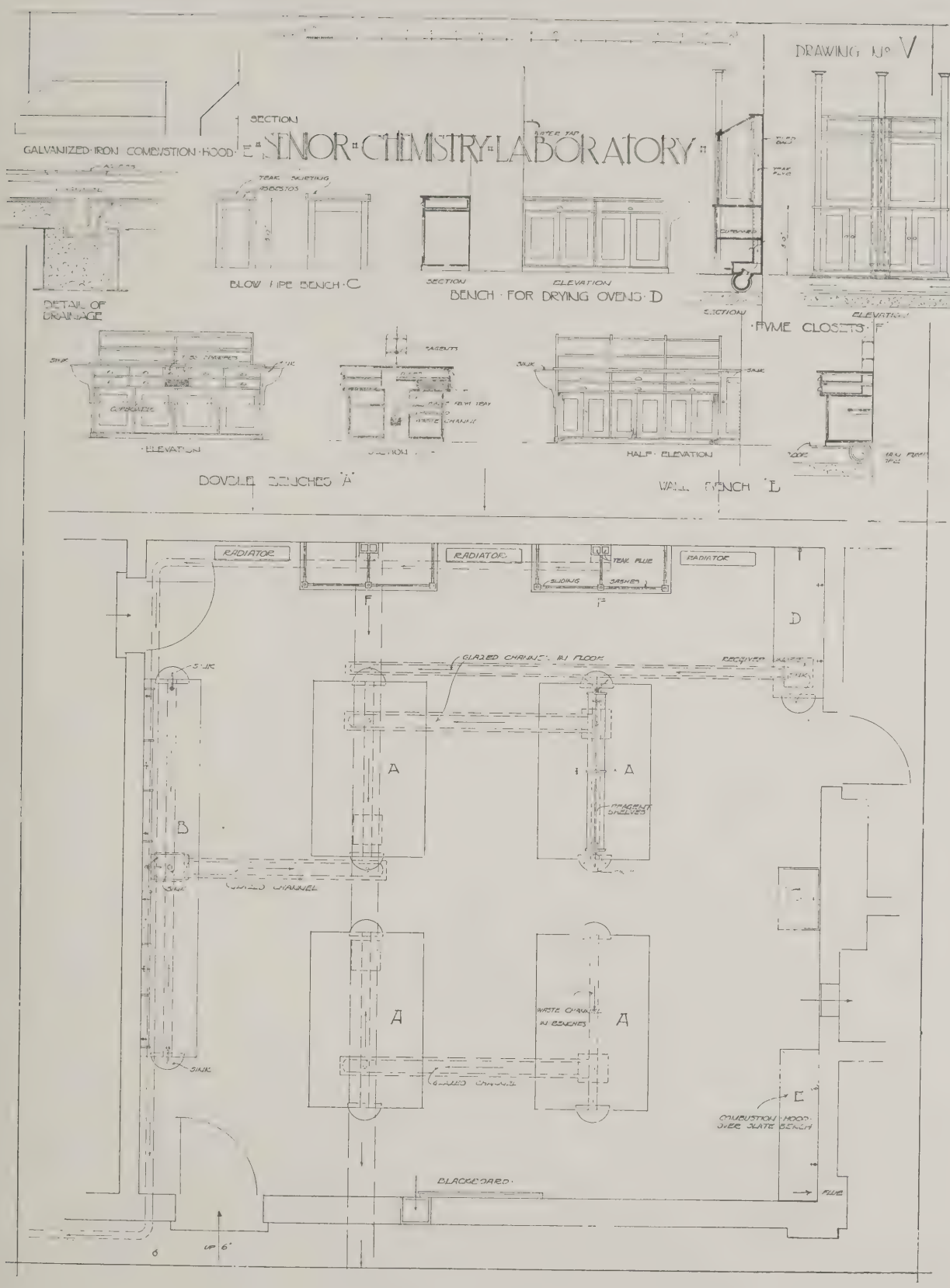
GROSVENOR ATTERBURY, JOHN TOMPKINS, AND STOWE PHELPS, ASSOCIATED ARCHITECTS.

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ENGLISH INTERIORS. VI.—THE DRAWING ROOM, WELBECK ABBEY.
ERNEST GEORGE AND YEATES, ARCHITECTS FOR RECONSTRUCTION.

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SCIENCE AND TECHNICAL BUILDINGS. XVI.—SENIOR CHEMISTRY LABORATORY, CARDIFF TECHNICAL INSTITUTE.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.

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STUDENTS' DRAWINGS (SERIES II.). XXXIV.—DESIGN FOR A ROLL OF HONOUR.
BY MICHAEL R. KELLY.

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THE PLATES.

Screen and Doorway, New York City Hall.

UNDER the direction of Mr. Grosvenor Atterbury, with Mr. John A. Tompkins and Mr. Stowe Phelps as associated architects, the City Hall of New York has been reconstructed. The two plates in this issue show a portion of the work—the screen and doorway at the west end of the main corridor—and from these the excellent character of the design can be gauged. It will be seen that the work is on the traditional lines of "Colonial" architecture, and embraces such typical details as slender applied columns, reed motifs, and extremely refined mouldings. The fanlight is filled by an elegant lead grille, glazed. While the close repetition of such work as this is liable to become a little too facile, and unconvincing, we should like to see the treatment of interior woodwork developed on these refined lines, rather than on the customary "English Renaissance" lines which, while described as being "bold" and "strong," are too often coarse and heavy. We reproduce our double-page plate from "Architecture," New York.

Drawing-Room, Welbeck Abbey.

This is part of the reconstruction scheme at Welbeck Abbey which was carried out some years ago for the Duke of Portland under the direction of Messrs. Ernest George and Yeates. The tapestries, which are the chief feature of the room, are of the Louis XVI. period, by Nelson, from the pencil of Boucher. The cove of the ceiling is painted with festoons and panels taken from the tapestries, a similar colour scheme being adopted, though lower in tone.

Senior Chemistry Laboratory, Cardiff Technical Institute.

This room has been designed to suit the general requirements for advanced work, and will be used by students of organic and inorganic chemistry. There is a generous supply of fume closets, cupboards, etc. Messrs. Ivor Jones and Percy Thomas, of Cardiff, are the architects.

A Roll of Honour.

A roll of honour was the subject recently set for Subject XXVI. of the R.I.B.A. problems in design. The design we illustrate is by Mr. Michael R. Kelly, of the Liverpool School of Architecture.

NEW LIGHT ON INIGO JONES.

TO the October issue of the "Architectural Review," just issued, Professor W. R. Lethaby contributes a most interesting article on Inigo ones as a painter. In the course of this article he ays:

"In 1603 a mission was sent to the King of Denark by his brother-in-law, James I., on his accession o the English Crown, particulars of which are conained in the Duke of Rutland's MSS. at Belvoir astle. The party left London on June 27 and nbarked on the 'Carvill' Lion for Copenhagen, hence they went to Elsinore with a train of fifty agons. At the end of July they returned to ngland. On June 28 was entered in the Belvoir ccounts a payment to 'Henygo Jones a picture aker *xli.*' From the wording it seems as if this large im might be a grant for expenses rather than the ayment for a picture, and it becomes the more obable that the payment was in connection with the enmark mission when we remember that, according his own account, as reported by Webb, he had one from Venice to serve the King of Denmark. The ost likely reading of the evidence appears to be that he had come back from Denmark with messages from King Christian to James I., and that he was useful in the preparation of the English mission. The same accounts note a payment—'To Hyldiard for a picture of the King's Majesty *iiili.*' This, of course, was one of the artist's beautiful miniatures, and it was doubtless taken as a present to the King of Denmark. Two points, however, are quite clear—Inigo Jones had returned from his first Italian journey early in 1603 and at that time he was a professional picture painter; that he had something to do with the mission is made the more likely by the fact that he was employed as a King's messenger to France in 1609. Another interesting probability emerges in connection with the record of the Danish mission of June, 1603. The play of 'Hamlet' was first produced in 1602, and published in 1603 'from Shakespear's first draught.' A revised version appeared in 1604—'The Tragical History . . . enlarged to almost as much again as it was.' It would be a curious coincidence if this play, laid at the Castle of Elsinore, and ending with the coming of ambassadors from England, did not contain a topical allusion to the actual mission of 1603."

Other articles in the October issue of the "Review" include "The Pantheon in the Oxford Road," by Mr. Arthur T. Bolton; "Some Recent Acquisitions at the Victoria and Albert Museum, South Kensington"; "Classic Architecture in Trieste," by Mr. A. E. Richardson; and "Welsh Historical Sculpture in the Cardiff City Hall."

CORRESPONDENCE.

Charing Cross Bridge.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—It is a fortunate chance that brings together, in your issue of the 27th, an article on the Paris Bridges and Mr. J. A. Morris's letter reprinted from the "Spectator."

One aspect of the proposal to rebuild Charing Cross Bridge seems to me not to have received sufficient consideration, viz., the levels of the bridge in connection with the Embankments. Anyone familiar with the Blackfriars end of the Victoria Embankment will realise how awkwardly similar gradients would spoil any architectural effect if repeated at Charing Cross. Any scheme in which the new bridge "takes up" directly from the Embankment would entail long approaches to it from Northumberland Avenue and the Embankment. Even if it could be managed, it is out of the question to have the tramways crossing the line of bridge traffic at this spot. The Embankment level must remain unaltered and the traffic pass under the bridge.

The new bridge cannot improve upon Waterloo Bridge, the majestic grandeur of which arises largely from its severe horizontality. Let our new bridge also be level, and let it have its architectural "places" at either end as described by Mr. Morris. Northumberland Avenue would have been impossible unless widened and rebuilt; another reason for ignoring it as an approach. The site of Charing Cross Railway Station seems exactly suitable for the purpose. Bridge traffic going westward would find itself on the level of the Strand, a slight clearance on the opposite side of which would open a free way to Charing Cross Road. Where the hotel now stands there could be the triumphal arch or other memorial.

On the southern bank, Dame Nature has, unfortunately, not provided a natural platform from which the bridge could spring, and it would seem that the best thing to do is to prolong the bridge as a viaduct,

passing over a new Embankment footway—Belvedere Road and York Road. On the eastern side of Waterloo Road it would widen out into a "Station Place," with the vista closed by the new S.E. and C.R. Station.

The two great masses of station and front courts would, to some extent, balance each other. At present the new Waterloo Station stands up without any apparent relevance to things in general, and cries aloud for a supporter. Only such traffic as was destined for the two stations would continue its level progress eastward from the river; all other traffic would find its way down to the normal level by means of a spur road commencing near the river and delivering southwards into York Road. York Road itself would require some adjustment at its junction with Westminster Bridge Road. A short new road between the two, curving round the western side of the station could easily be managed.

Clapham Park, S.W. W. GANDY.

P.S.—I have just noticed Mr. Lionel Barrett's letter printed in one of your contemporaries. His suggestion for the western end of the bridge agrees, to some extent, with mine. He does not deal with the eastern end, except to indicate it on his plan as coming down to the normal level in York Road opposite the steep rise into Waterloo Station. This would, I think, entail too steep a gradient, and the switchback effect would be both ugly and dangerous.

Housing and Industry.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—With respect to the housing question, there is one important aspect that is too seldom brought into due prominence. That good housing lies at the root of national health and industrial efficiency we hear often enough: also that labourers forsake the land because of the scarcity of cottages; but too little stress has been laid on the effects on town industries. A case in point may be cited from Halifax. At a meeting of the Chamber of Commerce in that town it was stated that a non-munition committee which had been sitting for three or four months with the object of inducing women workers to come into the district "had come to the conclusion that the whole question hung on housing: if they could procure houses, they could get a good many people to come into the district." Dearth of houses, it is thus made only too clear, cripples the industries of towns, as well as those of the rural districts, and this fact has no doubt been brought home very forcibly to the Government in the difficulties they must have encountered in housing munition workers.

I venture to draw your attention to this phase or facet of the many-sided housing question because, as I have said, it seems to have been strangely neglected. It is of vital importance to those towns whose prosperity depends mainly on industrial development. As in the case of Halifax, it is futile to seek such expansion where there is inadequate housing for the workers. At the present moment, great numbers of capitalists are seeking suitable localities in which to erect factories, and municipalities are competing to attract them. Other things being equal, those towns that show the most adequate housing accommodation will attract the greatest share of industrial capital, which, moreover, will then be directly and wholly applied to manufacture. Obviously the manufacturer will prefer those districts in which he will not be compelled to sink a considerable portion of his capital in housing his workpeople. There are, I think, many instances of rival towns competing against each other to attract some great firm about to build extensive works. Such competition puts municipalities in a very undignified position, to say the least of it; but the practice clearly involves much greater evils. Competition almost inevitably leads to cheapening; and whether a municipality attracts capital by offering to provide houses, or whether it makes concessions to a manufacturer on condition that he will see to the housing, the results with regard to quality in the housing will be pretty much the same—either the municipality or the manufacturer will strive to come off as cheaply as possible; and, as a rule, the competing authorities cannot afford to press the manufacturer who elects to build. If he is wealthy and philanthropic, he may build nobly, on garden city principles, but this combination is as rare as model villages like Port Sunlight or Bournville.

London, S.E. R. V. O.

A UNIQUE GROUP OF ALMSHOUSES.

THE range of almshouses at St. Germans, Cornwall, shown by the accompanying illustration, belong to the second half of the seventeenth century, and are among the curiosities of the country, for their design epitomizes almost every aspect of the earlier tradition, as once understood in the West Country. From the railway one catches a glimpse of the village reposing far below amidst a green setting, and the interest at once centres on the serrated roof to the almshouses. The seventeenth century designer was an ingenious man, for he arranged his twelve tenements in two tiers, under six open gables with stairways to the upper part at either end. The walls and the supporting tiers are built of the local "shillet" stone, the gable ends are finished with large rag slates from Delabole, and the roofs are covered with Smalls from the same quarry. On the main ridge six square chimney stacks, each finished with two hooded caps, denote the number of aged residents.

One cannot help being struck with the appropriate character of his group of buildings, which need no descriptive tablet to proclaim their purpose. The ancient women who live here wear bonnets resembling the gables, and when they take the air on either of the terraces the illusion is complete, and once again we are transported to the Cornwall of Cromwell's time. Contrary to expectation, the rooms are not darkened to any appreciable extent by the projecting front. It is not to be supposed that modern conditions would sanction a return to this type of construction, but as an example of seventeenth century charm and reasonableness of purpose this unique group claims the attention of all who are ready to appreciate old domestic architecture.



ALMSHOUSES AT ST. GERMANS, CORNWALL.

ARCHITECTURE AND THE NATIONAL RENAISSANCE.*

BY JOHN B. GASS, J.P., F.R.I.B.A.

THERE never was a time in our history when it was more important than at present that, in the national interests, there should be a strong and virile race of architects, properly organised and well equipped at every point for the great duties they will be required to undertake, understanding the watchwords of the age in which they live, and expressing in their designs the modern life. All things are changing, a new condition of things is arising, and as the Prime Minister recently said: "the whole fabric of our national life will have to be re-fashioned." In recent times the face of civilisation has been changed by the introduction of machinery and the rise of modern industry. And we, who are living in these stirring war times, can dimly see what greater changes there will be in the near future. Not only will there be a new outlook on that changed civilisation which we have seen, but a new idea of life by those who have served as soldiers where individualism gives place to organisation, and there will be a strong and insistent call for true national service from all in the future.

Architects and Social Problems.

For the reorganisation which will surely take place after the war, architects should now be preparing and using every means in their power to take that position in the world of affairs which the importance of their profession demands. Many social and economic problems will arise; the inevitable and wicked wastage of war will have a great effect, and tremendous taxation will follow, not only in payment for the war but for maintaining a greater state of militarism than has even been dreamt of in our island home. The nations at war will suffer much from the loss of a great part of a generation of educated and trained young men who naturally would have been the leaders in art, science, and industrial progress. I believe that, in Lancashire anyhow, there will be no industrial hesitation after the war, and that the qualities of organisation and applied energy of determination will surmount the difficulties which will arise, and there will be increased effectiveness of production, which will enable us to maintain and increase our hold on the markets of the world, without which we cannot live. Although some war-time fortunes will be made, wealth will doubtless be more widely distributed; but the enormous savings from the economies of the people at large and the departments of the State, where economies are so much needed, with the increased earning capacity of so many more of our people, will, if the thrift is permanent and the labour continuous, as I believe they will be, build up capital very fast. Architects will need all their energies and all their enthusiasm to cope with the problems which will present themselves.

Development of National Life.

The great outstanding feature of this war time has been the way in which the State has developed in its organisation, and the control it has taken, not only over the lives but over the property and the industrialism of the people. Property has so long been considered sacred by our law-abiding nation heretofore a slave to tradition and precedent. Seeming impossibilities have been achieved. Never will this development be allowed to drop, and it will extend to other departments of our national life.

In our preparation for war, with much of good and much that was wonderful, many and grievous mistakes have been made and unnecessary wastage caused not only monetarily—and that was sufficiently appalling—but by the almost wilful disregard of the best utilisation of our specialist training, which, properly used, was a national asset of great value. The change came so suddenly and unexpectedly that we, as a nation, individualistic in our outlook, practical minded, but naturally slow moving and somewhat haphazard, were unable to adjust ourselves sufficiently quickly to perfect our organisation on scientific lines. But gradually matters have been somewhat improved, and they are becoming more perfect: the considered "plans and bills of quantities," so sorely needed in all departments in the early part of the war, are by slow degrees being properly developed and drawn out.

When the call came for men, the younger members of the architectural profession responded with an enthusiasm which will ever be memorable, and of which we shall always be proud. Our young men were willing to take on any work or do any duty required of them. Faithful unto death, many made the supreme sacrifice. England will be for ever richer by that sacrifice, but none the less do we mourn the loss of these brave and young lives. But, so far as I know, there were few instances in the army service in which their special training and experience were utilised in the national service for the national good. In these later times perhaps more use has been made of these highly trained young men, though little consideration has been given to their special architectural qualifications which gave great opportunities for usefulness: their services have been and will be required in all stages of the war as well as after the war. And not only has this want of consideration and loss of advantage to the nation been in the case of the younger men who have joined in active service, but with the profession as a whole; in the national interests it is to be greatly regretted. The Architects' War Committee of the Royal Institute of British Architects from the first was anxious to do everything in its power, and it has the support of the whole profession. On September 11, 1914, a complete offer of the services of all the members of the Institute and of other members of the architectural profession was made officially to His Majesty's Government, and on September 23, 1914, the Army Council wrote, stating that "they much appreciated the patriotism which prompted the offer, and it has been noted for further consideration." *But they were never called upon,* and the architects with their trained powers of organisation, direction, and control of building operations, and the profession where imagination on practical lines is highly developed, were not utilised in the hour of national need.

Hutting Contracts.

Had there been from the first an Architectural Board of Control or Advisory Committee composed of men of affairs accustomed to deal with works of magnitude, with representatives in the various districts as local conditions required, it is very unlikely that there would have been the occasions for the extraordinary reports which were and are current in regard to the arrangements for the encampments and the carrying out of the huts and other more or less temporary buildings for our soldiers, both at home and abroad, and for the munition works and workers. The arrangements for many of the contracts were such as naturally led to bad organisation and administration, with consequent wastage. In the House of Commons on May 30 last the question was raised of the hutting contracts on a cost of over £7,000,000, and now stated as over £12,000,000 done on a percentage of cost basis. This system was stated "to cause increased cost and inefficiency, and to be one of the causes of the labour unrest." With this I agree. In reply it was said that though it was still thought by the authorities "that the quickest, best and cheapest way had been adopted, negotiations were being entered into to revise the percentage of profits agreed to be given, and the House was asked not to press further in the matter"! But the question of percentage of profits (and a reasonable percentage of profits for the builder is not unfair when satisfactory service is rendered) was not the only thing which required revision; the mischief was done in such a way as to prevent the cause of it being remedied.

The report of the Committee of Public Accounts issued on August 19 last only shows in part the wastage and national loss caused by the unsatisfactory and unbusinesslike arrangements adopted, and I presume it was drawn after the revision of profits had been negotiated. This report does not include the munitions buildings, which are of gigantic size, and to which some of the builders' allegations referred. A similar and comprehensive report is necessary in connection with these buildings.

Unfortunately for the nation, neither the Royal Institute of British Architects nor any of the societies allied therewith, appears to have been consulted at any time in regard to the carrying out or the progress of any of the building works directly under Government control; in isolated instances, however, where the work was not so controlled, advantage was taken of architects' services, and a few of the members of our profession above military age were appointed to subordinate positions under the Ministry, but none were in the list of names submitted by the Institute. In September, 1915, the Government's representative stated in the House "that for the building of hutted camps the services of engineers rather than architects were needed, and as the huts followed typical plans, there was comparatively small scope for designing." It was in this connection—the planning and distribution of the huts suitably to the sites in which there was great scope for designing, as well as in the arrangements of the contracts for building—that the architect's services were so greatly required.

* Extracts from the Presidential Address delivered at the opening sessional meeting of the Manchester Society of Architects on October 11, 1916.

The Ban on Private Building.

There was undoubtedly much delay in the completion of buildings urgently needed for national purposes which made it necessary to put a ban on private building, with the consequent hardship to many members of our profession and disorganisation of the building trade, one of the greatest industries of the country. It was not until this had been done that the Institute seems to have been officially recognised at all. Then, but only in June last, and nearly two years after the complete offer of the services of all the members of the Institute and of other members of the Architectural profession was made, the President of the R.I.B.A. was invited to assist the Ministry when technical problems presented themselves in regard to measures for the protection and safety of the buildings on which work had been stopped. I have no doubt but that even at this late stage his services would prove of great value. Careful consideration has undoubtedly been given to the many difficult cases which have arisen in this connection. All buildings, particularly those for industrial purposes, are permanent sources of increased national wealth and revenue. The Local Government Board's application of May last to the Architects' War Committee to supply men to work munitions barges might appeal to those with a spirit for adventure—I have no record of the result. These matters are mentioned, not in any captious spirit or in time of great national emergency being unwilling to give all the services required, but to show the want of appreciation of how best to utilise for the national good the services of a body of highly trained specialists in the best manner.

How Architects are Ignored.

And not only now, but in pre-war time, public advantage has not been taken of the special training and experience of members of our profession. On Government Commissions, as the Commission on the Lighting of Factories and Workshops, which issued the first part of its report in August, 1915, there was no representative of the architectural profession, though this is one of the national commissions where the services of an architect specialist in these buildings should have been utilised. Some architects were invited to give evidence in the matter, but surely our profession should have been definitely represented on so important a commission. The qualifications obtained in the R.I.B.A. examinations received scant consideration when applications were invited for the higher positions under the ill-starred Finance Act of 1909-10, though many young architects were afterwards appointed to carry out the actual work; nor were architectural qualifications asked for when officers were required for the labour battalions, though the training is such as specially fits a man for the duties there necessary.

These examples might be multiplied, but similar ones will be in the minds of all who appreciate the value to the nation of the training and specialised experience of members of the architectural profession, and consider that, in the national interests, greater public use should be made of them.

Architectural Training.

Under the leadership of the Institute, and with the assistance of the allied societies, educational facilities have been provided for a thorough training of architectural students in all the branches of their profession in London, in the great centres of industries, and at the universities. Manchester has not been behind in this, and the Manchester School of Architecture has been established pursuant to arrangements made between the University, the Manchester Educational Committee, and our society. Students are prepared for the examination of the Royal Institute, and the University offers degrees in architecture. The specialised school training utilised and made of practical value in the business of life with practising architects, together with experience of affairs and the carrying out of works, has brought forward a race of highly trained and practical, as well as artistically minded young men whose services in the Commonwealth should be of inestimable value if properly utilised. In the opportunities for their training much public money has been spent, and the large numbers who present themselves for the Institute examinations show how this training is bearing good fruit. Not that I say that the passing of even the Institute examination makes an architect; architecture is so complex a profession, with many sides, and we all know there are clever practising architects who have not presented themselves for examination because it was not essential to their professional life. But in an organised State no one should be allowed to practise as an architect who cannot show that he has been through such a course of study as is necessary to pass the Institute examination, and had had practical experience in affairs; he can specialise afterwards with his powers of design and artistic expression stimulated. It is greatly to the advantage of the State that a definite course of work, both theoretical and practical, is requisite for all who wish to practise the medical profession, and the course of study has not prevented, but been the foundation of the work of the great medical specialists who have done so much for the good of mankind. That profession contains an emulative body of medical thought and practice which purifies it of quackery and fraud, and these could not obtain if the profession were not controlled by its charters and through the State by the necessity of every practising member holding a diploma.

The Status of the Profession.

I am of opinion that there is a great and increasing majority of architects, particularly those practising in the provinces, who see the necessity for the members of our profession being similarly placed, and in the formative time in which we are living the matter should be receiving fresh consideration. It may, however, need the driving force of our younger men, with whom the military training will only be the beginning of the corporate idea. The emulative spirit for our nation as well as an enlightened self-interest, an enthusiasm for their work, and the highest good of the community will spur them on to make the position of our profession better for the future. It will also be further realised that it is still on the individual that the maintenance of the general high standard rests, and on each member of the profession will there be an ever-increasing demand and an even greater feeling of personal responsibility.

(To be concluded.)

[For editorial comment on some of the topics treated in this address, see pages 176 and 177. Want of space compels us to hold over some further extracts from this very pithy and opportune pronouncement.—EDS. A. AND B. J.]

OBITUARY.

Second-Lieutenant Philip E. Webb, A.R.I.B.A.

It is with deep regret that we record the death of Second-Lieutenant Philip Edward Webb, the youngest son of Sir Aston Webb, C.B. Educated at Folkestone and at the Charterhouse, Philip Edward Webb, after studying in the Royal Academy Schools, and in those of the Architectural Association, entered the offices of his father, who subsequently took him into partnership. Philip Webb was a popular figure at the A.A., of which he was elected a member in 1905, and in whose affairs he took an active interest. In 1914 he was elected member of council and became hon. treasurer of the Architects' and Surveyors' Approved Society. His Associateship dated from 1912. After a period of training with the London University O.T.C., he obtained his commission with the Royal Engineers and went through courses of training at Chatham and in North Wales. He went to the front on July 24, and on September 25 was killed by a shell while engaged on a special operation against the enemy, and was buried by his men on the spot on which he fell.

Second-Lieutenant Joseph W. Bull.

Second-Lieutenant Joseph W. Bull, o the Royal Engineers, who was wounded or September 26 and died in hospital a Rouen on October 1, was educated at th Haberdashers' School and the Northamp ton Institute. He was articled to Messrs Dove Brothers, builders and contractors and after going through their shops h completed his articles with Mr. Horace S Dove, surveyor, with whom he remaine up to the date of his joining the colours On March 9, 1914, he was elected Asso ciate of the Royal Institute of Britis Architects. Joining the Artists Rifles th day after war was declared (August 1914), he arrived in France on October 3 1914. He was gazetted second-lieutenan in the East Lancashire Regiment o July 9, 1915, and attached to the Roy Engineers in the following October, whe he superintended the erection of a larg number of huts at the front and wa gazetted to the Royal Engineers o January 1, 1916. He was twenty-fiv years old.

Mr. T. C. Hope, M.S.A.

The death has occurred at his residence 19, Alexandra Crescent, Ilkley, of Mr Thomas Campbell Hope, who was a wel known Bradford architect, and a forme member of the City Council. Mr. Hop was in his eighty-third year, having bee born at Bradford on May 10, 1834. M Hope served his articles with a Bradfor firm, and afterwards played a prominen part in the development of the city. H was responsible for the design of many o the dwelling-houses of the larger type t be found in the residential districts o Bradford. He designed the Bradfor Technical College, the Nutter Orphanag Greenfield Congregational Churc Grange Road Church, Sticker Lan Methodist Chapel, Lilycroft Schoo Grange Road School, Apsley Mills, Rav son Square extension of the Market Hall the Third Equitable Society's buildin facing the Town Hall, and the Coun Restaurant. Mr. Hope was elected to th Bradford Town Council as a represent tive of the Manningham Ward on thr occasions without opposition, and f

several years was chairman of the tramways, baths, and team labour committee. He was one of the founders and the first president of the Bradford Ratepayers' and Property Owners' Association. He was a prominent Freemason and he had travelled extensively.

Mr. J. Smith, of Belfast.

Mr. John Smith, a leading Belfast contractor, who died on October 4, at his residence, Ardgivna, Antrim Road, Belfast, had carried out many important public works in that city and elsewhere. Mr. Smith executed hundreds of contracts for street works in Belfast, and also carried out numerous undertakings for the county surveyor of Antrim. He was also engaged on important and extensive sewer work schemes for the town authorities in Dundalk and Waterford.

REBUILDING OF DUBLIN.

At an adjourned meeting of the Dublin Corporation, the Lord Mayor presiding, Mr. Sherlock asked the Town Clerk whether he had received any reply from the Chief Secretary to the resolution passed by the Council a week previously in regard to the delay in making known to the sufferers by the fires in Dublin in April last the amount of compensation to be given them as recommended by Sir William Goulding's Committee.

The Town Clerk replied that he had had a formal acknowledgment of the receipt of the resolution and a promise that the matter would have Mr. Duke's attention.

Mr. Sherlock said he wished once more to draw attention to the fact that, so far back as September 11, the sums recommended to be paid to the sufferers were mentioned in a report by Sir William Goulding's Committee, which was formed by the Irish Government. The sufferers for whom he (Mr. Sherlock) spoke did not want to know the date of payment, but they wanted to know the amount which the Committee had adjudicated should be paid to each applicant so that they should be in a position to proceed to make immediate arrangements for the rebuilding of their premises. Both the Government and the Goulding Committee had repudiated consequential damages, but they were, by their delay in enabling rebuilding to be commenced, increasing those consequential damages. If Mr. Duke and the Irish Government did not find themselves in a position to push this matter to a head, then the Council should appeal to the Lord-Lieutenant to exercise his influence in the interest of the commercial and business men of Dublin that they may get fair play and immediate fair play. The Parliamentary representatives of the two divisions of the city which have suffered were members of this Council, and he suggested that they should bring the matter up in the House of Commons, not only in the interest of the sufferers, but in the interest of the great body of working men who would find employment if work were going.

Alderman Byrne, M.P., said he had several times brought this matter before the attention of the Government Departments concerned, and all the satisfaction he got was the usual acknowledgment of the receipt of his letters. It was a great injustice to the people of Dublin that the Government should hold up building work. He promised to bring the matter before the Government.

BUILDING INTERESTS IN PARLIAMENT.

Board of Trade Reorganisation.

In the House of Commons on October 10, Mr. Runciman (President of the Board of Trade), answering Mr. Brookes, said it had been decided to combine the existing Commercial Intelligence Branch of the Board of Trade and the Exhibition Branch into a new and enlarged Commercial Intelligence Department. The reorganisation of the Department was now proceeding.

British Commerce after the War.

Mr. Bonar Law (Secretary for the Colonies) informed Mr. Brookes that the expert Committees which had been appointed to advise the Board of Trade as to the steps to be taken to secure the possession of various important trades after the war had made considerable progress with their investigations, and a General Committee had been set up under the chairmanship of Lord Balfour of Burleigh to report on British Commercial policy after the war with special reference to the Paris recommendations. It had been arranged that the Conference of Technical Delegates to consider the laws relating to industrial property, which was provided for by one of the various resolutions, should meet at an early date. Progress had also been made in other directions, especially with a view to safeguarding important key industries, but he was not yet in a position to make an announcement on the subject.

Sir E. Carson asked whether any legislation would be introduced to prevent in the event of peace the dumping of German goods, in accordance with the Paris resolutions.

Mr. Bonar Law: I have not looked into that. Probably it may be necessary, but that particular point has not yet been considered.

Mr. G. Terrell: When may we expect to have Lord Balfour of Burleigh's report?

Mr. Bonar Law: I know that the Committee is sitting very frequently, and the Chairman hopes to issue a report, or an interim report, in a very moderate space of time.

Mr. Macmaster: As this is a matter which interests the whole Empire, I would ask whether any arrangements have been made for the representation of our Dominions overseas on this Committee.

Mr. Bonar Law: It has already been pointed out to the House more than once that it is intended to summon a conference representative of the whole of the Dominions as well as of the Mother Country.

War and the Land Laws.

The House went into Committee on the Defence of the Realm (Acquisition of Land) Bill. In discussing the schedule, which provides for the modification of the Lands Clauses Acts in regard to lands and buildings to be acquired compulsorily by the Government under the Bill, Sir F. Banbury moved to omit a paragraph which deprived the owner of a factory or building, part of which was required for the Government, of the power to compel the Government to take the whole.

The Solicitor-General (Sir G. Cave) said this was a very usual paragraph to insert in Bills of this kind, and it was provided that where it was proposed to take only part of a building the Commission would have to be satisfied that the part could be severed from the remainder of the property without material detriment, and any damage caused by the severance would be compensated for.

Mr. Boyton asked what would be the position of the National Liberal Club if the Government decided to retain only a portion of their building after the war? It would be equally a calamity to the Constitutional Club or the owners of the great hotels taken by the Government if that course were pursued.

The amendment was negatived by 161 to 22.

Sir F. Banbury moved to delete a paragraph which provided that in determining the amount of compensation the Commission should have regard to the extent to which any adjoining land belonging to the same owner might be benefited by buildings, etc., erected on the land. This, he said, was an extremely controversial proposal involving what was termed the principle of betterment.

The Solicitor-General accepted the amendment, and it was agreed to.

The Solicitor-General also accepted an amendment moved by Mr. Turton omitting paragraph 11 of the Schedule, which provided that the Commons shall not hear more than one expert witness on either side, except in such cases as the Commission otherwise direct.

The Bill passed through Committee, and was reported with the amendments to the House.

SOCIETIES AND INSTITUTIONS.

Scottish Building Trades Federation.

The twenty-second annual general meeting of the Scottish National Building Trades Federation was held in the North British Station Hotel, Edinburgh. Representatives were present from all centres in Scotland, including Glasgow, Edinburgh, Aberdeen, Dundee, Kilmarnock, Greenock, Kirkcaldy, etc. Mr. Henry H. Spittal, Glasgow, president, occupied the chair. In their annual report the Board stated that "building operations throughout the country, other than Government works, have been reduced to a minimum. New work is being restricted by direction of the Government, and work in progress has, in many instances, been entirely suspended. The endeavours of the board during the year have been chiefly directed to preventing the chronic disorders of pre-war days becoming hopeless chaos. In the midst of many difficulties they have striven to bring some semblance of order into the methods of negotiating contract work, which, in recent years, had become well-nigh intolerable. Their efforts, they believe, have not been unsuccessful. As a result of many conferences and much deliberation, regulations for entering into and carrying out of contracts for building works in Scotland have been framed, as well as general conditions and forms of contract. Under the chairmanship of Sir George Askwith, the Chief Industrial Commissioner of the Board of Trade, these were finally settled, and published in December, 1915. They were brought into force at the beginning of the present year, and are being generally and successfully adopted. That the building trades may be in a better position to meet the new industrial and commercial conditions that are expected to develop from the war, several meetings, representative of all the Building Trades Associations throughout Scotland, were arranged by the board with the object of organising and strengthening the position of the trade. Strong representative committees are presently engaged considering the possibilities of organisation in different parts of the

country, and it is hoped they may be able to formulate some scheme whereby a more comprehensive federation of the various trades associations may be attained." Office-bearers for the ensuing year were appointed as follows: President (re-elected), Mr. Henry H. Spittal, Glasgow; senior vice-president, Mr. Edward Bruce, Edinburgh; junior vice-president, Mr. George Rouse, Kilmarnock; interim secretary and treasurer, Mr. James M. Laird, writer, 163, West George Street Glasgow, in the absence on military service of the secretary, Mr. Thomas Ferguson, solicitor, 123, George Street, Edinburgh.

NEWS ITEMS.

Lieut. A. R. Courtenay.

Mr. A. R. Courtenay, until recently acting manager of the Publicity Department of the General Electric Co., Ltd., has been promoted to a full lieutenancy. Lieut. Courtenay has had nearly nine months' service in Egypt and Salonika.

Memorial Window.

A two-light window at the west end of the south aisle of All Saints' Church, Crondall, Hampshire, has been filled in with stained glass and dedicated to the memory of Captain (temporary Major) the Hon. Archibald Rodney Hewitt, D.S.O., East Surrey Regiment, younger son of Viscount and Viscountess Lifford, who was killed at the second battle of Ypres on April 25, 1915.

Additions to Armstrong College Hospital.

Pavilions presented by Mr. James Knott and the committee of the Elswick and Scotswood Workmen's War Relief Fund, Allies' Hospital Fund, and Soldiers' Comforts' Fund, have been opened at the 1st Northern General Hospital (Armstrong College), Newcastle. Major Knott's gift was in memory of his son, Major Leadbitter Knott, who was killed in action, and the pavilion is identical with the one previously presented to commemorate the death of another son.

Building Plans Approved at Hull.

The Hull Corporation Works Committee have approved the following plans: W. B. Brown and Co., additions, St. Andrew's Dock; Crown Oil Cake and Manure Co., shed, Maxwell Street; Anglo-American Oil Co., additions, Cleveland Street; E. E. Leighley and Co., additions, Wincolmlee; Hull Forge Iron and Steel Co., alterations, Cannon Street; Rishworth, Ingleby, and Lofthouse, Ltd., additions, Cleveland Street; E. Boyd and Sons, additions, Holderness Road; British Oil and Cake Mills Co., Ltd., extensions to boiler-house, Cleveland Street; Horsley, Smith and Co., additions, Pelham Street; R. Booth, additions, Maxwell Street; Hull Stearine Co., Ltd., additions, Cleveland Street; Reckitt and Co., store shed, Stoneferry; Blundell, Spence, and Co., shed, Bank Side; C. D. Holmes and Co., Ltd., additions, Alfred Street; Sissons Bros., and Co., Ltd., two sheds, Bank Side; Chambers and Fargus, additions, Wincolmlee; Hull Forge Iron and Steel Co., extensions, Lime Street; Hull Oil Co., ambulance-room, Stoneferry.

Housing Reform Conference.

A conference of delegates from public utility societies, convened by the Garden Cities and Town Planning Association, was held last Friday at the offices, Gray's Inn Place. Mr. J. E. Champney presided. There are seventy societies federated, and already 8,000 cottages have been provided by them. In a paper on the policy to be pursued after the war, Mr. E. G. Culpin (secretary) said the association stood for a definite phase of housing reform, which was neither municipal work nor private enterprise, but which avoided some of the pitfalls of both. As soon as peace was declared municipalities would have an enormous amount of work to do, and the association would always press for the garden city standard of housing. Their policy for future work should include the securing of increased powers to local authorities to purchase land, compulsorily or by agreement, and lease it to public utility societies for the erection of dwellings. Public utility societies also should, through some body charged with the duty, have power to acquire land compulsorily for housing and town-planning purposes. At the close of the meeting the executive committee was directed to consider the advisability of asking the Treasury to receive a deputation on the subject.

Rosyth School Controversy.

The problem of the erection of a permanent school at Rosyth has again engaged attention at a meeting of Dunfermline School Board. A letter was read from the Scotch Education Department stating that the Treasury were prepared to authorise the raising of a loan of £12,000 to meet the cost of providing further school accommodation at Rosyth. The letter also stated that the Treasury were unable to consider the granting of any special terms in the matter of rate of interest. It was agreed that a deputation of the Board should visit the Scotch Education Department in London in order to urge that better terms should be given.

Yorkshire Village Library.

The Duke of Devonshire, president of the Yorkshire Union of Institutes, and Yorkshire Village Library, accompanied by the vice-chancellor, Mr. M. E. Sadler, have paid an informal visit to the new premises of the above library, which have recently been completed in Vernon Road, Leeds. They were received at the entrance by Mr. Alfred Marshall, chairman of the Council; Mr. Joseph Briggs, Cleckheaton, chairman of the Building Committee, and others. After inspecting the various rooms and enquiring about the class of books, and the mode of distributing them to the various Yorkshire villages, the Duke complimented the committee upon their new headquarters, and the useful work that was being carried out. Mr. Moorhouse, one of the oldest members of the Council, explained to the Duke how the Union of Institutes was the parent of Leeds University. The party then left to visit Leeds University, where the Duke delivered an address on the occasion of the opening of the new session, after which he presided over the annual distribution of prizes to the students at the University Medical School. Messrs. A. Marshall and Son, of Otley and Leeds, were the architects for the library.

War Memorials in Churches.

At Oxford Diocesan Conference last week the Rev. E. M. Blackie proposed: "That in view of the fact that war memorials will be erected in many churches in the diocese before long, this Conference respectfully requests the Bishop to take such steps as he may think fitting, in order to secure that such memorials be neither unsuitable nor inartistic." The Bishop expressed the profoundest sympathy with the motion. He had recently concluded a tour of the Witney Deanery. What an extraordinary wealth of lovely churches there was in that deanery erected by the piety and devotion of their ancestors. But the record of the last fifty years, in the way of adornment of those churches, had been most dishonourable to their taste, especially in the matter of brasses. His lordship referred to the committee which had been appointed in the diocese on this subject, and suggested that every incumbent should arm himself with the knowledge that this committee had been appointed, and with the resolution of the Conference, so that he might say when he was approached about any memorial, "I have resolved under the advice of the bishop, and under the authority of a resolution of the Diocesan Conference, that before I put up any one of these memorials I will consult this committee." Beyond that he did not know what he would do. The motion was carried.

Brighton Memorial to Indian Soldiers.

The site of the crematorium on the South Downs at Patcham where the bodies of Hindus and Sikhs who died in the Indian military hospitals at Brighton were burned has been acquired by the Brighton Corporation from the trustees of the Abergavenny estate for a permanent memorial. It is proposed to erect a small monument in the form of a *chattri*, and the names of the Indian soldiers whose bodies were committed to the flames there will be inscribed upon the building. The Mayor of Brighton intimated to the Secretary for India that the Council would gladly accept the trust "to preserve carefully and reverently a spot which must always bear a deep significance." The action of the civic authorities at Brighton in the matter is warmly appreciated in India, and the Viceroy, Lord Chelmsford, has written to the Mayor thanking him. Arrangements have been made for the permanent upkeep of the burial ground for Mahommedan soldiers near the Woking Mosque. The ground has been planned under the advice of Mr. Abbas Ali Baig, C.S.I., Member of the Council of India, and is being surrounded by an ornamental wall of Oriental character. For each grave an inscribed headstone is being supplied.

Forthcoming Housing Conference in Manchester.

The National Housing Council is arranging an important conference of Lancashire local authorities to be held in Manchester on November 23 and 24. This will be the first of a series of similar conferences for the purpose of preparing the way for the big scheme of housing which Mr. Walter Long recently announced as contemplated by the Government. It is thought that while the Government is considering its plans the local authorities might well spend their time in starting the necessary preliminary work in their own districts. Local authorities that have not yet appointed housing committees will be urged to do so at the conference, and to set on foot careful inquiries into the housing conditions, so as to be prepared with outlines of what is wanted. The Lancashire local authorities will also be urged to put on steam in the matter of town-planning schemes. At present, of course, all building is suspended, which gives an opportunity for the preparation of schemes with the minimum of inconvenience. There will be a great rush of building as soon as the war is over, and it is important that the local authorities should have their plans ready for the control of town extension on orderly lines.

ELECTRICAL NOTES.

Mazda Lamp Developments.

A price list of Mazda lamps has recently been issued for the present season by the British Thomson-Houston Co., Ltd., of 77, Upper Thames Street, E.C., in which all the various types made by the company at Rugby are described. The drawn wire process of filament making was invented in the Mazda Research Laboratories, whilst further research resulted in the development of the half-watt lamp. The ordinary Mazda lamps are listed for 20-89 volts and 6-60 watts for use on circuits having reducing transformers, etc., and for 100-155 volts and 10-200 watts for low tension public supplies, or 200-260 volts and 15-200 watts for high tension public supplies. The lamps of small wattage will be found useful in places where the utmost economy in lighting is required, and they can now be obtained at relatively small prices.

The Mazda half-watt lamps, which were previously only obtainable in large sizes, are now to be had in a very extensive range, for 25, 50-65, 100-130, and 200-255 volts, and in wattages for 15-100, 30-500, 60-1,500, and 100-1,500 watts respectively. This type of lamp, which comprises a drawn wire filament burning in an inert gas, has an efficiency about double that of the ordinary Mazda lamp, a whiter light, and an intrinsic brilliancy eight times greater. The 50-65 volt lamps can be substituted for arc lamps.

A New High Efficiency Carbon Lamp.

From America comes news of a further development in carbon filament lamps, which at the moment is probably more of scientific than of practical interest. At the commencement the bulb is filled with an indifferent gas at a pressure slightly less than atmospheric pressure. A carbon filament of the concentrated helical type is supported just over a pool of mercury, in a glass tube which dips into the mercury and forms an inner chamber. When the current passes through the filament the mercury is evaporated by the heat, and the mercury vapour rises in the glass tube, pushing the inert gas upwards so that it escapes through apertures at the top of the tube into the outer chamber of the bulb. The pressure on the mercury is thus equalised, whilst the outer wall of the bulb remains cool and can therefore withstand the comparatively high pressure. The burning of the filament in the mercury vapour is said to give high light efficiency.

Holophane Industrial Reflectors.

The making of munitions of war has created an increased demand for special electric light fittings of many kinds, but particularly for reflectors for lighting workshops and individual machines. Some interesting and useful reflectors are listed in a 20-page leaflet issued by Holophane, Limited, of 12, Carteret Street, Westminster, S.W., which have been specially designed for the purpose. These reflectors employ the well-known Holophane prismatic glassware, but are provided with an external metal cover, which increases the reflecting capacity of the glassware, protects it from injury, and tends to keep it free from dust. The patterns for concentrated or distributed illumination over a small area are suitable for the lighting of machine tools, benches, &c. Other reflectors are made for general illumination in "extensive," "intensive," and "focussing" types. The first are intended for low ceilings and are best placed at centres equal to twice their height above the working plane. "Intensive" reflectors are for buildings of average height, and should be placed at distances of one and a half times their height over the working plane. "Focussing" reflectors are intended for rooms with lofty ceilings, and their centres should equal their height above the working plane. The reflectors are made in sizes suitable for small and large candle-power lamps, and for vacuum and half-watt lamps up to 1,000 watts.

"D.G." Bowl Fires.

One of the latest and most seasonable innovations in electric fires has been introduced by Messrs. Drake and Gorham, Ltd., 7, Felix Street, S.E. It is, as its name suggests, a bowl-shaped metal reflector of solid copper, mounted in the 1,000-watt size on a tripod of black iron, and in the 750-watt size on a black and copper pedestal. The heating element is detachable, and consists of a dome-shaped body of special fire-clay with vertical ribs on its convex surface, between which are laid spirals of resistance wire. A disc of asbestos stone or similar material serves as a mounting for the element, and the connections are to a rigid perforated metal strip, taken to a terminal plate in a domed metal cover at the back of the reflector. The latter is fitted with a wire grid to prevent accidental contact with the incandescent wire spirals. The bowl reflector is mounted on trunnions and can be swivelled between the vertical and horizontal planes, and will stop in any position. In the horizontal position, however, it is held by a spring catch, so that a kettle placed on the grid cannot be upset. The grid can also be used for toasting.



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BOOK NOTICES.

"Some Varnish Vagaries."

Under this title, Messrs. Robert Ingham Clark and Co., Ltd., Caxton House, London, S.W., issue an exceedingly useful manual in which are dealt with in succession all the ailments, surely, to which varnish is susceptible. It is a formidable list; but "for every evil under the sun there is a remedy—or there is none." The value of this book is its clear statement in every case of the cause, the means of prevention, and the remedy. As an example of the succinct and very practical method of presentation, we quote the notes on "Sweating-up": "*Definition:* 'Sweating-up' is the technical term applied to the oily gloss which appears on varnished surfaces after pumicing. *Causes:* Allowing too long an interval to edapse between pumicing the undercoat and applying the finishing coat of varnish. To prevent and remedy: All oil varnishes and black japan, from the nature of their composition, have a tendency to sweat; that is, to become slightly greasy upon the surface. This is especially the case in the highest class of coach and motor work, where, to ensure perfect flow and finish, the painting shops have to kept at a high temperature. Sweating probably gives more trouble in practical varnishing than any other cause, for the reason that this 'sweat,' if not removed, has the most deleterious effect upon the coat or coats that follow. Each succeeding coat should, therefore be applied immediately after the rubbing down. If from any cause this cannot be done and the work has been allowed to stand, it must be gone over again very lightly with pumice powder and water, immediately before the next coat is applied. This precaution is of the first importance, as it will effectually remove the sweat and materially conduce to first-class results." Other troubles, to the number of a dozen, are dealt with in a similar manner, rendering the booklet exceedingly serviceable to all varnish users. Both as to printing and binding, it is a very dainty production, and we are informed that a copy of it will be presented to any of our readers who care to apply to the firm's advertising department, West Ham Abbey.

A Handbook for Ship Painters.

Mr. George S. Welch, "painter, R.N.," is to be congratulated on his manifestly useful little manual, "The Ship Painter's Handbook," having reached the third edition. It is an admirable booklet, built "all ship-shape and Portsmouth fashion," with rounded corners to its canvas covers and carrying a rich cargo of up-to-date information and instruction, conveyed with the utmost terseness and simplicity. A very luminous little chapter deals with "Some Problems in Practical Geometry," and there are some generally excellent observations on lettering, although we cannot agree with the instruction that, "generally speaking, the thicker the stem in proportion to height, the thinner should be the limbs springing from it." Violent contrast is never good art, and is fatal to lettering. But the booklet is a real boon to the handyman, afloat or ashore.

"The Ship Painter's Handbook; with Useful Information for the General Painter and Decorator." By George S. Welch, Painter R.N. Third edition, revised. Pages viii. + 146, price 3s. 6d. net. Gieves, The Hard, Portsmouth. John Hogg, 13, Paternoster Row, London.



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THE
ARCHITECTS' & BUILDERS' JOURNAL.

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WOLVESEY PALACE, WINCHESTER: MAIN ENTRANCE.
SIR CHRISTOPHER WREN, ARCHITECT.

THE ARCHITECTS' & BUILDERS' JOURNAL.

OCTOBER 25, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1138.

EDITORIAL.

TWO newspapers that have been always distinguished for the attention they give to the arts—the "Morning Post" and the "Observer"—are maintaining this reputation by taking up, with energy and vigour, the Charing Cross Bridge question. In the former paper of October 14 there is a sympathetic account, occupying more than a column of space that must be specially precious in war-time, of the town-planning aspirations of which the Charing Cross Bridge scheme is the nucleus; and the "Observer" is giving, week by week, a series of articles, described as being "signed" by Mr. John Burns, Sir Aston Webb, and Mr. Reginald Blomfield, which apparently have for their object the enlightenment and stimulation of the public mind on this important question. It is fairly evident that propaganda by newspaper will not end the campaign, but is merely the artillery liveliness preceding a Big Push. A large-scale map, 18 ft. by 15 ft., has been prepared, and copies of it will soon be available for exhibition and study in town-halls and public institutions. It is the map of "a dream city, encircled by a ring of parks and woodlands, meadows and gardens, that will keep the charms of Nature for ever ready to hand, and will form a happy resort easily accessible from all parts of the capital. This as yet imaginary girdle stretches from Epping Forest, on the east, and joins up in the west with the large open tracts of Putney, Wimbledon, Richmond, and Bushey Park, extending as far as the Colne Valley."

* * * *

"Dream-city" is rather an unfortunate expression. It might shock that most susceptible of faddists, the "practical man," who stands in superstitious awe of everything tainted with imagination—a faculty which he regards as useless and even dangerous, although it is the source of all his prosperity. But it may be assumed that there is no intention of drawing the line at dream-maps, or maps of any other description. Hung in the lobbies of public libraries, and in school-rooms, they may serve to impart a modicum of much-needed education, and they should be accompanied by charts showing graphically and comparatively the effects of good and bad housing on health, the effects of health on commercial prosperity, the commercial value of healthy lives, the depressing influence of ugly buildings, the enormous wastage resulting from congested traffic and roundabout routes, and other matters of vital interest to the community, which are commonly left untouched in the schools. Years ago, the late Mr. H. O. Arnold-Forster wrote a school reading-book on startling lines. He called it "The Citizen Reader," and in it endeavoured to teach the rights and duties of citizenship. This daring innovation paralysed the teaching profession; who, however, on recovering from the first shock, adopted the book with avidity. Civics, Mr. Arnold-Forster held and proved, was in reality a most fascinating subject. He did not deal with town-planning, and that is an omission which should be repaired.

* * * *

Mr. Clutton-Brock, we feel sure, could produce a most charming school-book demonstrating the joys of "tidiness" in town life, as well as its high value as a business asset. It is this latter point that the promoters of the Charing Cross Bridge scheme seem determined to drive home. They are wise. Amenity is an abstraction to which the "hard-headed" member of the community are wilfully blind and deaf. Show them the prospect of some concrete gain, and they are won over without further need for persuasion. To adopt this line is not to forsake a principle. Amenity and utility are not essentially antagonistic the one to the other. They are more intimately related than most people suspect, and to present the side of the argument that happens to be momentarily the most effectual is not chicanery but legitimate dialectic. There are occasions when it is wise to follow the line of least resistance, and this seems to be one of them. Nor does this appeal degrade the man of business. It simply gives him a new point of view, showing him that art is not the fatuous abstraction he had supposed it to be—that there is money in it, that it is something which survives the test of his own particular touchstone. He himself comes off with this credit—that he will not meanly stand out for an immediate personal gain, but has enough patriotism and civic pride to make sacrifices that savour of practical wisdom. All that he demands in such a case is that the investment shall be sound, that it shall go to the credit side of the city and the Empire. To that object he will willingly contribute even though he sees no prospect of personal gain. Ordinarily he is an excellent citizen, well worth winning over to our good cause.

* * * *

That he is not to be won over by loading him with sarcasm and contempt has been, unhappily, proved experimentally. Now that an avenue to his sympathy has been found, he will no doubt see his way to become our strong ally in a movement that is demonstrably patriotic in its business aspects, as well as in others that gain no force from over-insistence on them. If it can be shown convincingly that amenity means higher efficiency, there is no need to labour æsthetic points. That is why medical men are so much more influential on the housing question than are architects. The medical officer of health does not base his arguments on elegant airy abstractions, but on ugly material facts, and he has the immense advantage of being able to support it with concrete instances from which specific deductions are inevitable. His assurances that bad housing leads through mental, moral, and physical degeneracy

owards national decay he can support from plain vidences that, in a double sense, lie at the very doors f his local authority. While it is not possible to pro-uce such convincing proofs on the æsthetic side, it hould be advantageous to make more use of the rgument from hygiene, and to develop it, or refine pon it, by showing that the fine flower we wish to ultivate is no hot-house production, but draws its ourishment from sturdy roots. And akin to this rgument from expediency is the contention that the own-planning view of the Charing Cross Bridge uestion is essentially a business proposition.

* * * *

With respect to the Charing Cross Bridge schemes, will be necessary to meet the objection that the bolition of Charing Cross railway station would cause rave public inconvenience. We must confess that at rst we were inclined to regard this objection as being ery serious indeed, seeing how many thousands of ersons live in South London and work on the other ide of the Thames, or vice versa. But the Thames ould be bridged at this point for wheeled and edestrian traffic, and tube railways are beyond the xperimental stage. At the worst, the transpontines ould be no worse off here than they are at London ridge. True, the South-Eastern Railway disfigures he river here with another abominable bridge, even s it does also at Blackfriars; but the Brighton Railway tation at London Bridge is a terminus; and the annon Street station is neither so conveniently tuated nor so entrancingly beautiful that we should esire its perpetuation. Sooner or later, all these ugly attice-girder bridges must disappear. They are the ncouth survivals of a more primitive age. They ust shortly go the way of all things that are mani-estly out of date and opposed to the spirit of the age. hey will be superseded by tubes, and a beginning ill be made at Charing Cross.

* * * *

On his election as Dean of Guild for Glasgow, Mr. ugh Reid, of the North British Locomotive Com-any, put forward some excellent suggestions relative o the housing question, which in Glasgow has become cute. Architects, he said, might be "invited to tender lans for an exhibition," to be organised by the cor-oration, the Merchants' House, and Trades House, ith suitable premiums for approved designs. It is no oubt the best way in which to elicit ideas correspond-ng to sudden and drastic change in the conditions of ousing. Mr. Reid dealt also with the cognate ques-on of the relations between capital and labour. Such ctors as satisfactory output on the one hand, or dequate remuneration on the other, should be deter-ined by experts rather than by political compromise. iven the provision of adequate markets, and unre-ricted output from the factories, workers should soon eceive not only satisfactory wages, but also what he onsidered would be a still greater boon, shorter work-g hours. It should follow that the standard of living ould be raised and that better housing would come in a concatenation accordingly."

* * * *

A letter, variously headed "Corruption in Trade," Prevention of Corruption," "Prevention of Cor-ption in Trade with Public Authorities," and possibly other insinuating ways, according to sub-editorial ncy, has been published broadcast by the Secretary the Builders' Merchants' Alliance, Ltd. After luding to "the scandal of bribes to officials which as been so notorious of late," the Secretary goes 1: "My Alliance contends that if a simple arbitration ause was put in every public contract half the trouble ould disappear. Up to the present time for the most rt in every public contract that is drawn the official ncerned is the sole arbiter in respect to the perform-ance of the contract. This is absolutely monstrous, and it is only here and there that some public authority has recognised the unfairness of it and had inserted an arbitration clause." So far, the association is on safe ground; but the letter hardly keeps within the limits when it adds: "It must be quite clear that if the official is to be the sole judge of the contractor's goods, his methods of delivery, etc., this gentleman may be, and very often is, a very dangerous person indeed to the contractor, especially as he acts generally through a subordinate, whose judgment he is bound to support, and quite obviously he is open to illegitimate conciliation for the actual protection of the contractor in carrying out his contract."

* * * *

This way of putting the case conveys a broad general imputation that public officials and contractors will alike resent—that many officials are "open to illegitimate conciliation," and that many contractors "protect" themselves by illegitimately conciliating them. According to our observation, such malpractices are exceedingly rare, and this letter does not convince us to the contrary. Doubtless it was not intended to; but in that case it is somewhat unfortunately phrased. Common prudence would prevent the great majority of officials and contractors from exposing themselves to the danger of prosecution, even if they were restrained by no higher motive, and we fear that this letter, widely circulated as it has been among the general public, will create an impression that is as erroneous as it is injurious. Nevertheless, it embodies a suggestion that is worth attention—that a simple clause in contracts should give the right of appeal against official decisions; not because officials are corrupt, but rather because they are sometimes imbued with an exaggerated sense of duty, which leads them to over-stringency in the treatment of contractors.

* * * *

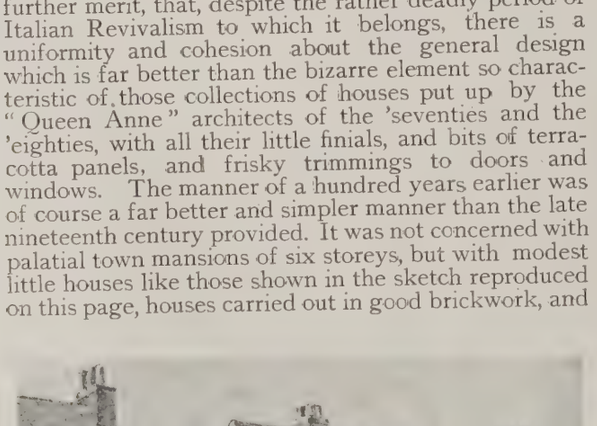
Rather unnecessarily, M. Henri Davignon, secretary of the Belgian Commission of Enquiry, has replied at considerable length to a letter to the "Times," in which Miss Hobhouse assumes the guilelessness of the Boches in the matter of Louvain. He reaffirms the following facts, which, he declares, are attested by evidence that would satisfy any judicial tribunal: (1 On the night of August 25, 1914, the Germans set fire to the city in several places simultaneously, in obedience to a given signal. (2) Soldiers equipped with special fire-raising apparatus were told off to do this dastardly work under the command of officers. (3) The Church of St. Pierre was deliberately set alight by making bonfires of the seats. (4) The Halles and the University Library were allowed to burn without any attempt to preserve them. Not a single volume was saved. (5) The Hôtel de Ville was spared simply because the German staff lodged in it. (6) The burning of the city destroyed 1,120 houses. The fire raged for three days, the Germans forbidding any attempt to extinguish it. Some of the inhabitants were shot, others chased out of the city, and yet others deported in cattle trucks to Germany. After the fire, the houses that escaped it were pillaged under the eyes and with the encouragement of officers. These facts are recorded in the Grey Book recently published in Paris by order of the Belgian Government (an English edition is in preparation). M. Davignon has photographs which put beyond doubt the extent of the damage. He states that the Boches, by means of short and rapid excursions, "personally conducted," have endeavoured to hoodwink Americans, Swedes, and others as to the extent of the damage to Louvain, and are anxious to escape condemnation for it. This heightens the crime. They gloat over it in secret, but have not the courage to face the consequences of their barbarism; they are, after all, only half-baked Huns.

HERE AND THERE.

THREE little notes have reached me concerning my recent comment on Hammersmith in particular and civic squalor and tidiness in general. The first is from my sculptor friend, who says: "I subscribe to the view that you have to be petrified before you can live in most places in London—Bayswater, for example, with its long obese stucco, smug, respectable dwellings. Whitechapel is more my mark. A little dirt is a blessed mercy. However, it's a fine place any way. Bad architecture in London is better than good architecture in the provinces." The second note is from a Fellow of the Institute, who says: "Unfortunately I agree with you! The main Paris streets are a fine example of tidiness, yet they satisfy artists. I do not see what the free life of the slums has to do with the architecture. The point is, new streets are rarely built for the working classes, who are consequently driven into old decaying ones, and these they make picturesque in a way the middle classes dare not do. I always avoid the new neighbourhoods and walk into town through the slums." The third note is from a West-End surveyor and estate agent, who sends me the accompanying illustration, from a pencil drawing he made (from memory) of a fragment of old Hammersmith that was demolished about 1864.

* * * *

These views call for some comment. It will be seen that the sculptor and the F.R.I.B.A. contradict one another, and I must claim to be on the side of the architect, for what is called the smug respectability of the West End has its merits, though the same kind of thing is done very much better in Paris. Nevertheless, obese and stucco though it be, I feel as I walk through some of the West-End squares, or along such streets as those in the neighbourhood of that splendid building, the Albert Hall (yet to receive its proper mead of appreciation), that there is here an air of that large manner of lay-out which is exactly what is needed in a great city. Moreover, the "obese stucco" has this further merit, that, despite the rather deadly period of Italian Revivalism to which it belongs, there is a uniformity and cohesion about the general design which is far better than the bizarre element so characteristic of those collections of houses put up by the "Queen Anne" architects of the 'seventies and the 'eighties, with all their little finials, and bits of terra-cotta panels, and frisky trimmings to doors and windows. The manner of a hundred years earlier was of course a far better and simpler manner than the late nineteenth century provided. It was not concerned with palatial town mansions of six storeys, but with modest little houses like those shown in the sketch reproduced on this page, houses carried out in good brickwork, and



A BIT OF OLD HAMMERSMITH.

sometimes in bad brickwork, for covering up whic latter wickedness no doubt stucco offered a most timel means. But though the occasion was one for mode effort, there were all the architectural elements fc building on the same scale as those endless West-En houses, with their endless pillared porches. And ther is John Nash's work in Regent's Park to show to th day that stucco need not necessarily be obese, nor bi houses smugly respectable because they preserve a ordered air, keep themselves trim, and see to it ver deliberately that they do not become draggle-taile and down at heel.

* * * *

Some long time ago, the gentle reader may remen ber, I put forward in this column the preposterous ide of the Hanging Garden Suburb of the future, a tabl land over the city, propped up so many hundreds feet on reinforced concrete legs, where the jade worker sped up in swift lifts o' nights to seek, as th poet Thomson sought on Richmond Hill, "a purer a and brighter sky." The Garden City enthusiasts we all to be in that Hanging Garden Suburb, engaged of yore in sweet pea contests and advanced soci reform; babbling brooks were to be there (running asphalt beds and emptying down pipes in the rei forced concrete legs); and every other feature constitute a rural district high over a densely-pop lated city. To this, admittedly preposterous, visi must now be added the complement, which Mr. Bar Pain provides—no doubt after two years of acquair ance with the factors of trench architecture. A stu of existing conditions, with houses on the ground a pipes and sewers below the surface, convinces h that things are exactly the opposite to what th should be; obviously the pipes, which we are for ev digging down to get at, should be on the surfa immediately handy, and the houses should be bel ground, for reasons of safety, of hygiene, and of co venience—"for æsthetic reasons—for thousands reasons"; all of which is as sweetly reasonable as t theory of improving upon Nature put forward by t late Mr. Dan Leno, who clearly showed how mu better it would be, for instance, if the calf of the l were on the shin bone, where it is wanted as a flies buffer, instead of being in its present useless place the back of the leg. Mr. Barry Pain chooses a Visiona as mouthpiece for his ideas, and the Visionary, usi the pages of the "Royal Magazine" as his medium expression, says: "The residential and commerc side of London must be buried. But I recognise t we have features which for historical and æsthe reasons should be left where they are and as they a That applies to St. Paul's. As I should never dre of burying it, you ought to be satisfied. But I go mu further than that. I say that under the new conditi of subterranean London, St. Paul's would for the f time have justice done to it. Consider that. It wo no longer be ringed by a collection of mean buildi and shops. The view of it would no longer be bar by the bridge of a dirty railway. Below grou Ludgate Hill would be no doubt a perfect warren shops and offices, but on the surface it would Ludgate Park—a sylvan scene stretching dc to the Thames and having St. Paul's as crown of glory. That is a point to remem A few seconds on the escalator would br the Londoner up into more beautiful cour than he can see now in a strenuous week-e When London, commercial and residential, is bur overhead, in a clear, smokeless atmosphere, we s have the garden of the world. Boys and girls will p tennis on the lawns of Cheapside, you will pluck roses in Mayfair, and in the forest of Fulham the deer will come down to drink from an unpolh Thames. It is not the least gain of a subterran London that the country would then come up to very doors. At present we bray about our poor l



DOORS AND DOORWAYS. X.—ENTRANCE DOORS, No. 59, CADOGAN SQUARE, LONDON, S.W.

WILLIAM AND EDWARD HUNT, FF.R.I.B.A., ARCHITECTS.

OF THE
UNIVERSITY OF ILLINOIS



Motor Car Premises, Winthrop Street.



Fish and Poultry Shop, Pembroke Street.

MODERN SHOP FRONTS (SERIES II.). I.—TWO SHOPS AT CORK.

CHILLINGWORTH AND LEVIE, ARCHITECTS.

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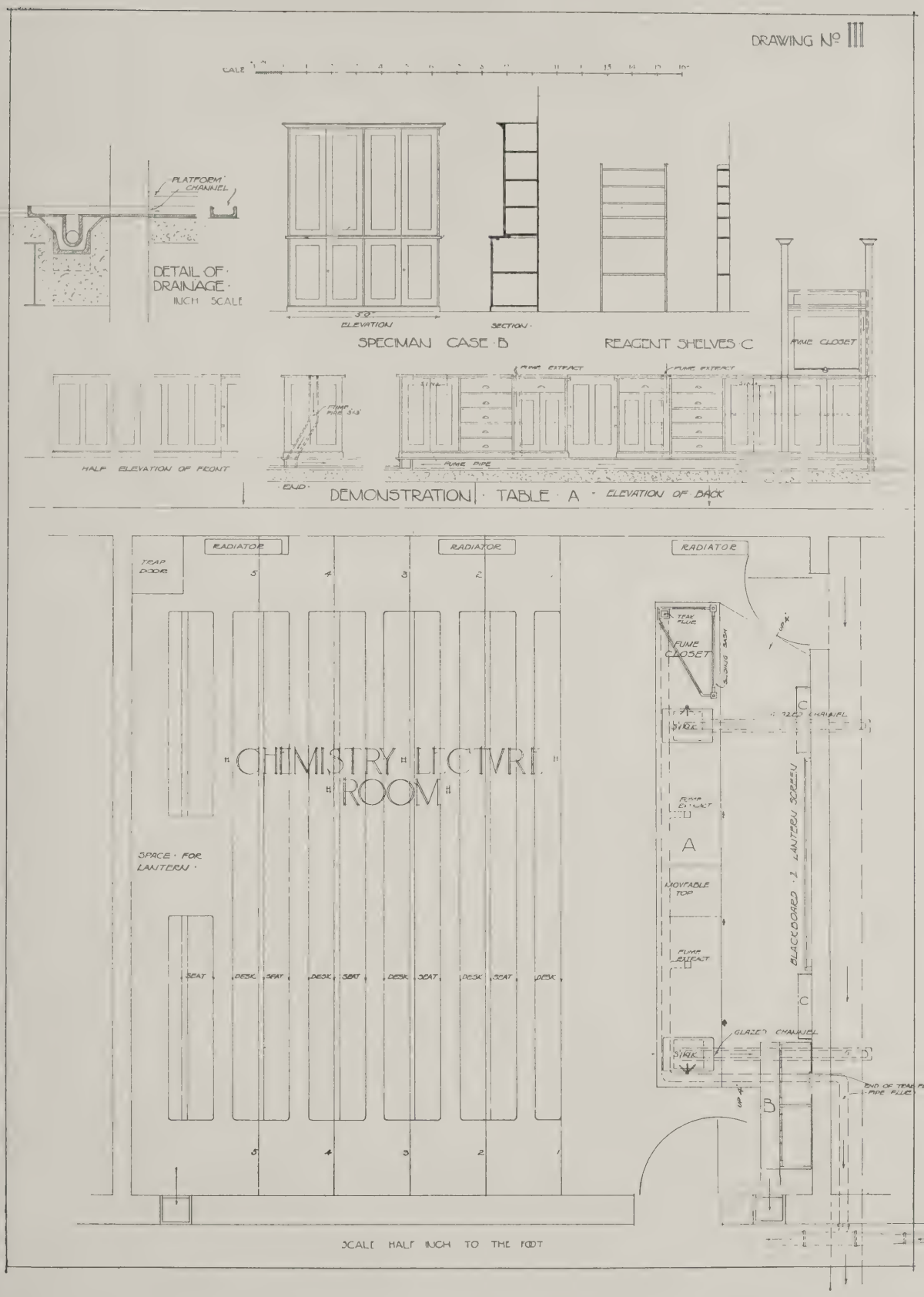
LONGITUDINAL SECTION



CROSS SECTION

STUDENTS' DRAWINGS (SERIES II.). XXXV.—THE ART GALLERY, MANCHESTER. SIR CHARLES BARRY, ARCHITECT.
MEASURED AND DRAWN BY GORDON HEMM.

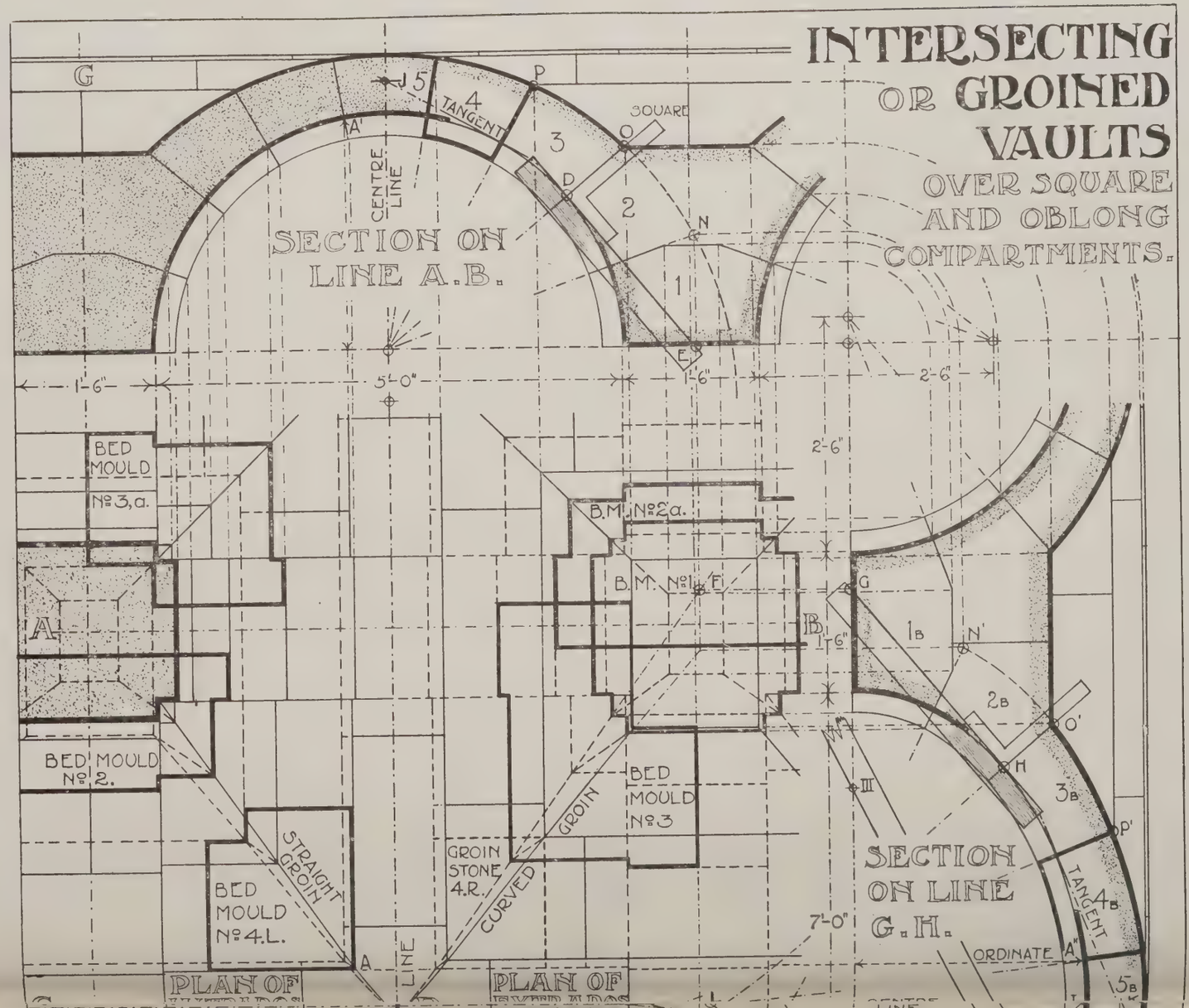
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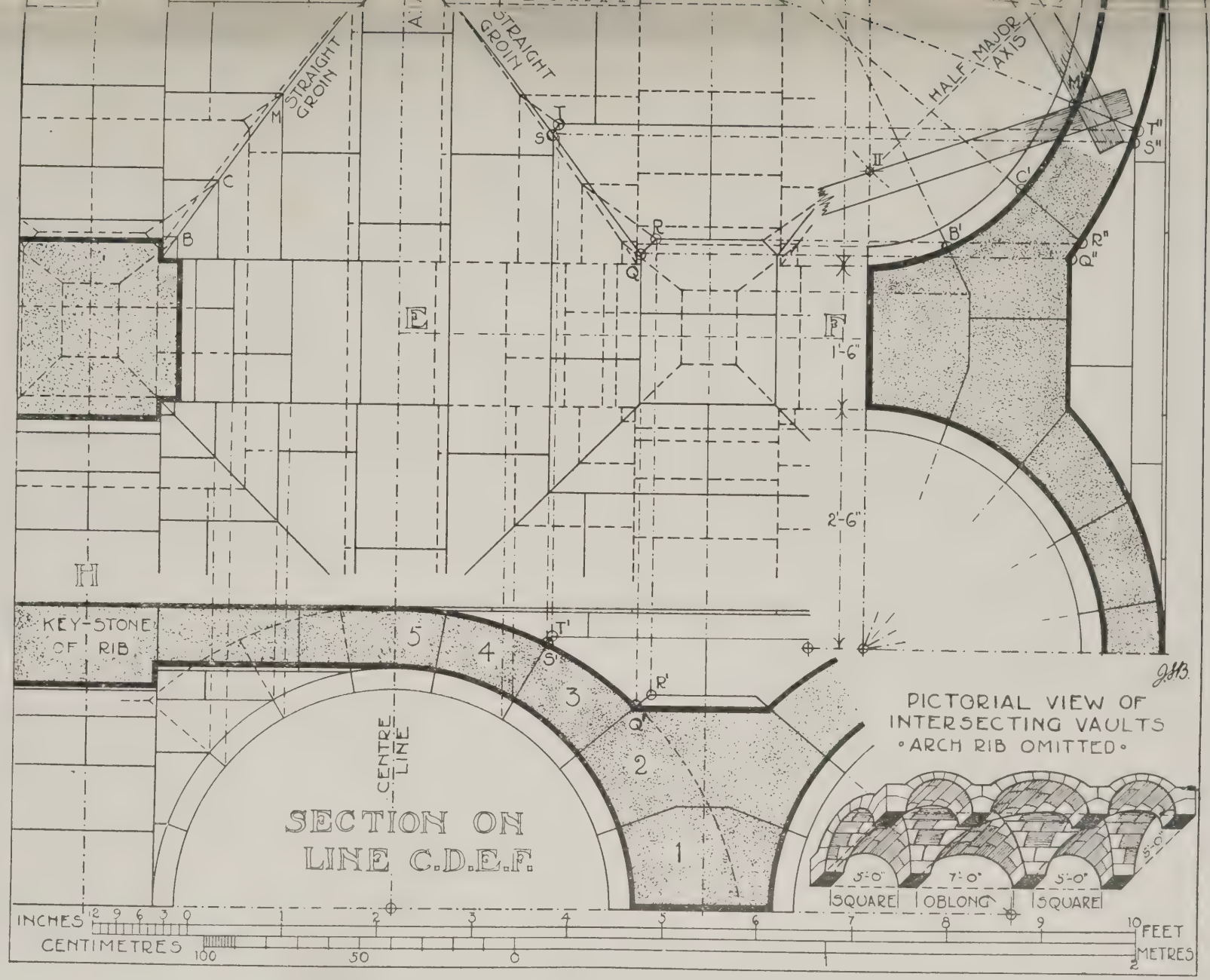


SCIENCE AND TECHNICAL BUILDINGS. XVII.—CHEMISTRY LECTURE ROOM, CARDIFF TECHNICAL INSTITUTE

IVOR JONES AND PERCY THOMAS. ARCHITECTS.

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INTERSECTING
OR GROINED
VAULTS
OVER SQUARE
AND OBLONG
COMPARTMENTS.
SECTION ON
LINE A.B.
SECTION
ON LINE
G.H.
PLAN OF
PLAN OF
CENTRE
LINE
TANGENT
SQUARE
ORDINATE
BED
MOULD
No 3,a.
BED MOULD
No 2.
BED
MOULD
No 4.L.
BED
MOULD
No 3
B.M. No 2.a.
B.M. No 1.E
GROIN
STONE
4.R.
STRAIGHT
GROIN
CURVED
GROIN
LINE
1'-6"
5'-0"
2'-6"
7'-0"



CONSTRUCTION OF INTERSECTING OR GROINED VAULTS. DRAWN BY JAMES S. BOYD.

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parks and call them the lungs of London, truly admitting that without them London would be quite stifled. We are too easily contented. The area of health and pleasure should be equal to the area of residence and commerce, and in the London that I picture this would for the first time be attained. At any point in subterranean London a few seconds on the escalator would bring the Londoner up from the city into the country. That would be the general idea—that the surface should be for health and pleasure, and that the business and routine of life should be submerged. . . In subterranean London a man would eat, and sleep, and work, but naturally he would spend as much time as possible in the beautiful country overhead. . . ." Thus, by opposite ways, Mr. Barry Pain's Visionary and I arrive at the same Eden. William Morris, in "News from Nowhere," anticipated a similar re-rustication of London, a London in which Trafalgar Square became a rose garden, and unsophisticated watermen wearing beautiful golden belts ferried one, without fee, across a purified Thames. But William Morris did not bury London to attain his end; rather he would have cremated it in order that it might arise Phœnix-like from the ashes.

UBIQUE.

THE PLATES.

Doors, Cadogan Square, London, S.W.

THESE doors form part of the alterations and additions that have been carried out at 59, Cadogan Square, under the direction of Messrs. William and Edward Hunt, FF.R.I.B.A. The doors are of English oak, with bronze pateræ and knockers. The doors and panels were made by Messrs. C. Young and Co. The carving was executed by Mr. John Linehan, the bronze work by Mr. William Hatton.

Shop Fronts, Cork.

The shop front in Winthrop Street is of oak, the front being composed of three sliding doors admitting of an opening two-thirds the width of the front for the passage of motor-cars. The fish and poultry shop-front in Pembroke Street is executed in cream "Marmo," the fascia lettering being in the same material in green. The grille below the fascia is of wrought iron with copper letters. Messrs. Chillingworth and Levie, of Cork, were the architects.

The Art Gallery, Manchester.

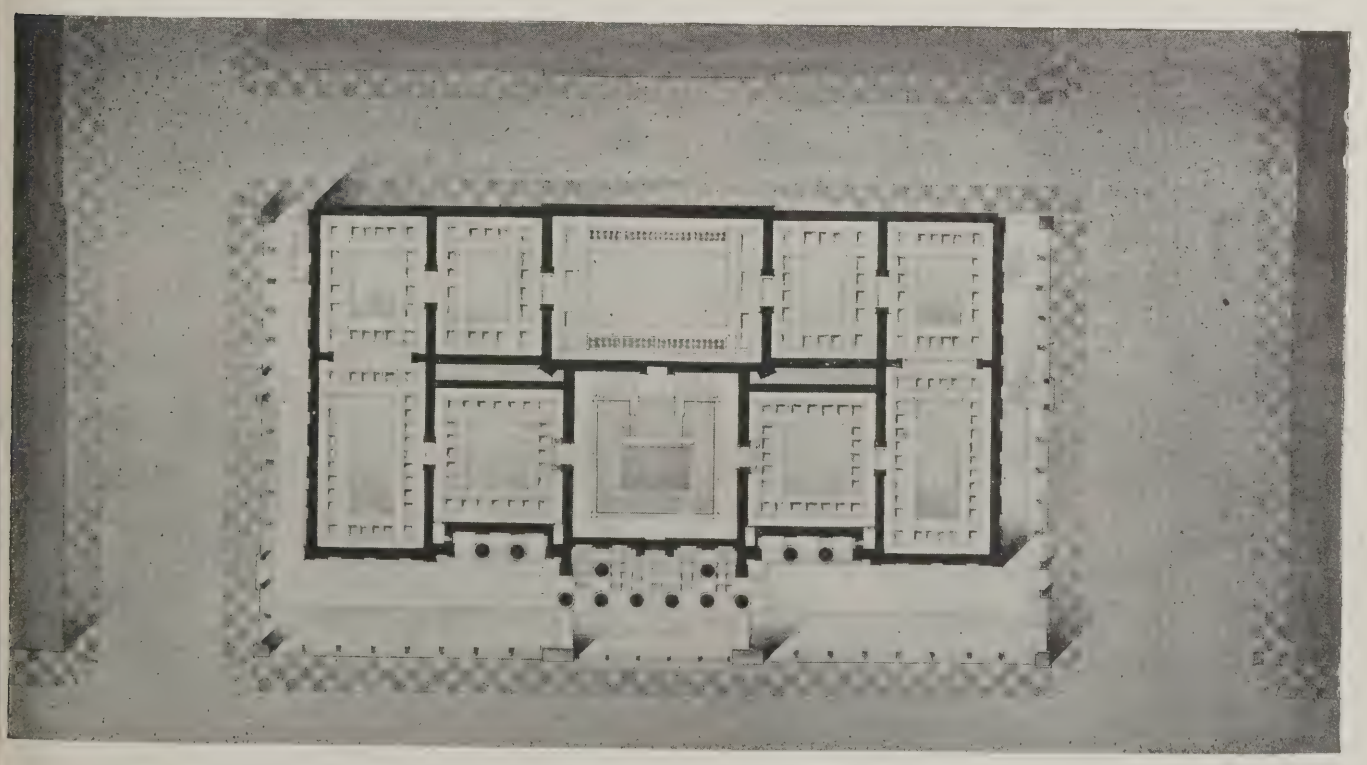
The plate shows the sections of this fine building, a ground-floor plan of which is reproduced below. The treatment of the great central hall will be particularly noted. It exhibits the same masterly handling which Barry displayed in all his best work. In a large public building of this nature nothing is more impressive than a fine hall extending the full height of the structure. Nash produced a noteworthy example in the United Service Club, Pall Mall, where, too, a splendid ceiling covers the space. In Barry's design at the Manchester Art Gallery panels with sculptures modelled after those on the Parthenon add relief to the wall surface, and give an air of classical distinction to the whole. The drawing now published completes our series of plates of the building, though we have still to show some details of the mouldings and some photographs of a most interesting model of the building.

Chemistry Lecture Room, Cardiff Technical Institute.

An important feature of this lecture-room is the demonstration bench, which is fitted with two sinks and numerous gas taps. Two fume extracts near the middle of the bench enable most of the experiments to be carried out in the open, whilst dangerous or unpleasant gases can be prepared in the fume closet, which has both up and down draught. Experiments conducted in the fume closet are visible from every seat in the room. Messrs. Ivor Jones and Percy Thomas, of Cardiff, are the architects.

Setting Out of Intersecting or Groined Vaults.

This is dealt with in detail in the article on the next page. Although vaulting is frequently acclaimed as a glory of Gothic, its early use by the Romans must not be forgotten. It is intensely interesting, however, to trace the development of vaulting through failure to triumph; and fortunately the materials for such a study are abundant in England, where, indeed, fan vaulting was first evolved, perhaps the earliest instance being found in the cloisters at Gloucester.



THE ART GALLERY, MANCHESTER: GROUND-FLOOR PLAN.

THE CONSTRUCTION AND STONE-CUTTING OF INTERSECTING OR GROINED VAULTS.

[SPECIALLY CONTRIBUTED BY JAMES S. BOYD.]

WHEN two or more cylindrical vaults intersect, the line of intersection is called a groin, and such intersecting vaults are properly termed groined vaults.

The essential difference between groined vaults and Gothic vaults lies in the construction of the groins where the cross vaults intersect. Groined vaults have no ribs at the intersections, the chief feature, and the main object requiring attention being the vaulting surface. In Gothic vaults, on the other hand, the ribs which occur at the intersections and which carry the infilling of the compartments form the principal features.

For statical reasons, the entire groin should be contained in a vertical plane. Such a condition can only be secured when the radii of the intersecting vaults are equal, and their springings at the same level, or, when the sections of the vaults are so adjusted as to obtain a straight intersection in plan.

The scale drawing, Fig. 1, gives the plan and sections of intersecting or groined vaults covering a series of compartments. (See the pictorial view in the same figure.) For the production of the stonecutter's moulds, fully one-quarter plan of each compartment is required to be drawn down full size on the drawing floor, but for the sake of clearness, and in order to arrange the jointing properly and to study the general construction, the whole plan of an oblong compartment, and part plan of two smaller square compartments are here drawn to scale.

The simplest possible arrangement is that in which the intersecting vaults are both of the same span and section as in the small square compartments (5 ft. by 5 ft.) flanking the oblong compartment. In a vault like this, both the intrados and extrados groins are contained in the same vertical plane, and both are straight lines in plan, forming the diagonals of the square. In the larger compartments, measuring 7 ft. by 5 ft., it will be observed that the intrados and extrados groins do not stand in the same vertical plane. The groins on the intrados are straight, being the diagonals of the rectangular compartments, and are shown by solid lines on the left half of the drawing, which is a plan looking up. On the right half, which is a plan looking down, the intrados groins are shown by dotted lines, and the exterior groins by solid lines. The extrados groins may either be straight or curved in plan as shown, according to the extrados curvature of the larger vault.

The vaulting of the small square compartments being more easily set out than that of the larger oblong compartments, the following description refers to the latter.

Scale Drawing. . Fig. 1 (*see Plate*).

Draw the axial lines of the compartment, and at a convenient place draw the base line of the sections AB and GH, drawing the semi-circular and semi-elliptical curves to their respective sizes, 5 ft. and 7 ft. Project from the extremities of these curves and obtain the rectangle measuring 7 ft. by 5 ft. in plan. Draw the diagonals of this rectangle, making the lines dotted on one half of the plan (right-hand in this case) as shown. Complete the plan of the piers and add a flat arch rib 1 ft. 6 in. broad, by 2½ in. projection. Now draw the complete section of the small vault made on the line AB in plan. Divide the intrados curve into a suitable number of stones, say nine, and draw the radiating bed joints normal. Add the thickness of the vault by drawing the extrados curve from a centre slightly lower than that used for the intrados, making the stonework 8 in. thick at the crown and increasing in thickness towards the haunches, which is an advantage to its stability. The extrados curve need not be carried below the level of the radiating bed 2—3. Make the top of stone No. 2 level, and midway between this and the level springing bed draw the small level bed shown. The long joint arrises of the intrados of this vault may now be projected into the plan, as shown by solid and dotted lines on the left and right hand respectively.

In drawing the section of the larger vault, taken on the line GH in plan, the elliptic curve of the intrados may be drawn by erecting ordinates from its springing line—as at A″, Section GH—produced from the semi-circular intrados of the smaller vault by projecting from the latter—as at A′, Section AB—down to the intrados groin in plan at point A, and from there to the required elliptic section, the ordinates at the elliptic section being made to the same height as those in the semi-circular section. It is preferable, however, to draw the elliptic curve by mechanical means, using a trammel, or string, either of which may be used for spans of moderate width requiring to be set out full size. Fig. 2 illustrates how the curve may be drawn by means of a trammel and two straight-edges. The straight-edges are lightly fixed to the floor with small wire nails, the edges of the former coinciding with the major and minor axes of the ellipse. The trammel is prepared by forming one end as shown enlarged, and measuring from this end, set out on the rod, half the minor axis—*i.e.*, the rise of the vault, and half the major axis, or half span. At these two points insert round wire nails or pins, allowing them to project about ½ in. from the trammel. The pins will slide freely along the straight-edges, and if a pencil be held in the notch at the extreme end of the trammel a firm elliptic curve will be described.

Assuming the elliptic curve to have been drawn by either of those methods, the position of the joints as at B′. C′, M′—Section GH—will be found by projecting from B, C, M, on the intrados groin in plan. It is essential that the radiating bed joints of the elliptic section—as in the other section—should be normal to the intrados curve, and there are several methods by which this may be done, but the two methods shown are perhaps the most suitable either for the preparation of a small-scale drawing, or for the full-size drawing required by the stonecutter. Leaving the drawing of the extrados curve out of account meantime, consider how the normal joints may be drawn by means of a straight-edge and square, the former being applied as a tangent, and the latter as a normal to the elliptic curve. At point D, section AB, apply a square to the normal joint 2-3, and along one side of the square apply the straight-edge, with which mark the point E on the springing line. From this point project down to cut the plan of the intrados groin produced in the point F, and again project this to the point G on the springing line of the section GH. If the straight-edge be now applied from point G on the springing to H on the intrados curve, it will be observed that it is tangent to the elliptic curve at the latter point. Applying a square to the straight-edge as shown, the normal joints 2B-3E can now be drawn. This method can be applied in drawing the normals at any point on the curve—*e.g.*, the normal joint 3-4 being nearer the crown of the curve the tangent at this joint in section AB is drawn to meet the centre line in the point J, obtaining the position of the point K on the centre line of the elliptic section by measurement from the soffit, or from the springing line, and then drawing the tangent and normal. As each normal to the elliptic curve is drawn on one half of the section, produce it to meet the centre line as at point L, and from that point draw the normal through C′ on the other half of the section. It may be remarked that, when drawing the normal joints by this method in a scale drawing, the tangents and normals are readily determined by the manipulation of a pair of set-squares, and in full-size work on the drawing floor, by means of a mason's steel square and a straight-edge.

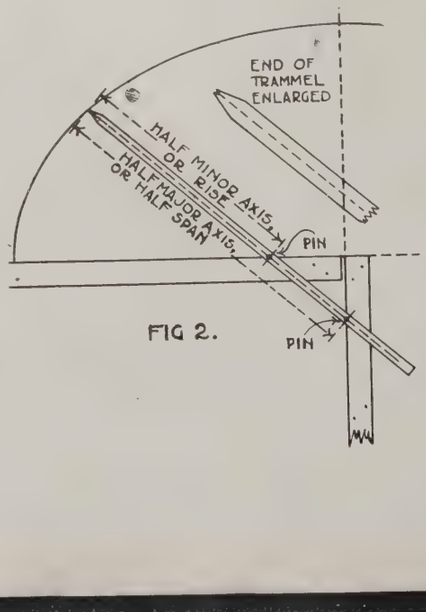


FIG 2.

The other method illustrated is even more useful in full-size work, as only one straightedge with parallel edges is required. To draw a normal to the elliptic curve at point M′, first find the *foci*—points II. and III.—of the ellipse by describing arcs from point I. as centre to cut the springing line, the radius being half the major axis – 3 ft. 6 in. in this case. Apply the straight-edge to coincide with points M and II, drawing a pencil along both edges in the vicinity of the required joint. In like manner the straight-edge is applied to point III. and the lines drawn to cross those previously drawn, giving a small parallelogram, the longest diagonal of which being a normal to the curve. The intrados curve of the arch rib may now be drawn parallel to the elliptic curve by setting off the projection of the rib (2½ in.) on each of the normals.

The extrados curve of the larger vault may be made either a true elliptic curve or not as desired. On the upper

ft-hand portion of the section G.H., it assumed that the long joint arrises of e extrados of both vaults are required meet in a point on the exterior groin. he normal joints in this section are erefore cut off to the same height above e springing line as are the correspond-g joints in the section A.B.—*e.g.*, points ', O', P', are at the same height above the ringing level as are the points N, O, P section AB. A curve drawn through e points N', O', P' and the crown will ve a curve which is not truly part of an ipse, but it is not necessary that it ould be so. When the extrados joints just ferred to are projected from both sections meet in plan, it will be noticed at the exterior groin—drawn through the ints of intersection—is slightly curved.

In the other method illustrated on the ver or right hand half of the section GH, e extrados curve is made part of a true ipse, the resulting groin being a straight e as shown in the plan of the extrados. this the long joint arrises of the two ults are not at the same level and there-e do not meet on the groin. This angement is preferable to the former, d the method of projecting the joints into plan will be described by dealing with joints which meet at the points R, and S, T.

First, draw the plan of the extrados in by drawing projectors from the point (Section C, D, E, F), and from point Q'' ction GH) meeting in plan at the point from which the straight groin is drawn he point D at the centre of the compart-nt. In the Section C, D, E, F now draw elevation of the extrados arrises of the ger vault, meeting the radiating bed ats of the smaller vault in the points R' l T'. From these two points, and from and T'' (Section GH) draw projectors meet in plan at the points R and T pectively. Now join QR and ST. A

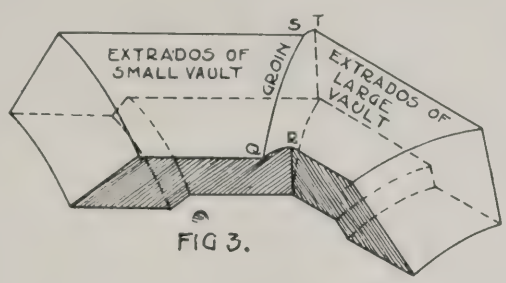


FIG 3.

sketch (Fig. 3) of the stone containing the points Q, R, S, T will help to make the foregoing remarks clear. Compare this stone with that shown in Fig. 14 (to appear later), in which the long arrises of the extrados meet on the groin.

The intrados and extrados joints having all been drawn in plan, the vertical joints of the several courses may now be set out in such a manner as to obtain good bond, the stones being made of such a size as to be convenient for handling. The vertical joints in the vicinity of the groins, however, require particular consideration. The intrados surface of the groin stones—as can be readily seen in plan—are much smaller than the extrados surface, therefore the minimum size of each groin stone is obtained from the plan of the extrados and is shown by dotted lines on stone No. 4R; but, as the groin is the weakest part of the vault—owing to each stone acting to a certain extent as a corbel—it is advisable to bond the groin stones into the long courses of the two cross vaults by forming the vertical joints about four or five inches beyond the minimum size, as shown on stone No. 4L. The foregoing remarks also apply to the keystone.

Projection of Moulds.

For the purpose of projecting and cutting the bed and section moulds, fully one quarter of each compartment, and at least half section of the two intersecting vaults require to be drawn down full size. The method of making this full-size drawing is the same as that already described for the small scale drawing, except that instead of using tee-square and set-squares, straight-edges and a large steel square would be used.

The overall size of the several groin stones projected into plan give the exact size and shape of the bed-moulds. The section-moulds are cut to the size and shape given in the two sections, as shown by section-moulds 4 and 4B, where it will be observed that the projecting arch rib is included in the mould. As each mould is cut and trimmed to the required shape it should be properly numbered and then tacked to the floor directly over the part to which it refers. In cutting the moulds care should be taken to allow for the thickness of the joint at all beds and joints, and before removing the section-moulds from the drawing floor a vertical line should be scribed on each to assist in the careful application of the mould to the stone.

(*To be concluded.*)

A.B.C. Guide to Patents for Inventions.

Anybody who contemplates taking out a patent would do well to get this guide. It seems to us to be a complete body of information, compressed into the fewest possible words; while the alphabetical arrangement achieves the author's express aim of economising the user's time. So far as we are able to check it, the information is both complete and trustworthy. But the full-stops in "A.B.C.," and the form "Phillipss" pass all understanding.

"The A.B.C. Guide to Patents for Inventions." By Robert E. Phillips, M.I Mech.E., etc., and A. Millward Flack, Fellow of the Chartered Institute of Patent Agents. Price 6d. Phillips, 70, Chancery Lane, London, W.C.


MINISTRY OF FINANCE, LOUVRE, PARIS: SIDE AISLE.


ST. SULPICE, PARIS: SOUTH AISLE OF NAVE.

ARCHITECTURE AND THE NATIONAL RENAISSANCE.

BY JOHN B. GASS, J.P., F.R.I.B.A.

(Concluded from page 182, No. 1137.)

A New Renaissance.

WHEN the nation's internal affairs are reorganised there will be much more prominence to the part the State and the local authorities will take in our lives. It will then be recognised, as it has never been recognised before, that there is this body of highly trained men, who can bring clear, fresh minds to bear on the architectural problems which will be pressing in the near future—the housing of the people—the improvements of our cities and towns—the better conditions for working (which is so much of the lives of many of us), light and well-ventilated factories, shops, and warehouses, and other considerations for the general welfare of the workers. It has been said (though it is only true in part) that even now the greatest artistic triumphs of our time are in the works of utility, expressing the wonder of work in dignity and grandeur of mass and in the betterment of the surroundings and conditions of work and lives of the people. The best possible buildings will be required, too, for the quick restoration to health of those who fall by the way; the necessity for these will, I hope, become less and less as the conditions of life and work become better. Our public buildings and all our surroundings will be seen by the new spirit which has been aroused in the people by the war, and there should be an artistic as well as a practical architectural renaissance in England.

I am of opinion that even if the Institute does not now proceed with its new charter and include in it a complete and efficient scheme of registration, it is very probable that the State will, in the early future, demand that in the national interests and for the protection and well-being of the people, those who practise as architects shall be fully and specially qualified. This can only be realised by our profession becoming as the medical profession is now. We have seen how the old order can be swept away as it has been during the war years, beyond the dreams of the possibilities in thought. There are innumerable difficulties, but if our courage is taken in both our hands, and the basis of registration and incorporation made as wide as possible for the present, the years as they quickly go will eliminate those whose training and outlook unfit them for the practice of architecture, and the near future will reap such a reward as the nation has done by medical registration. There will be plenty of opportunity, too, for the right expression of buildings in their design, making architecture the truly artistic living force it ought to be and in harmony with the new spirit of the nation.

The Place of Architecture in National Thought.

As every citizen is affected by architecture, and as in its widest sense it plays a great part in the daily life of each one, it should have an important place in the national thought. I believe that the training in our day schools is developing in the best of our younger generation the faculty of observation, and this with the change in point of view of our young men by their war experience and wider outlook, will be important factors in the future architectural development of our nation. With a generation taught to see, and with the wider outlook of those who are seeing so much of the world, powers of appreciation will be developed of what is right and true which is certain to affect all architectural work, and with our new ideals of State organisation the new public spirit will bring ever greater and increasing demands on those who direct and control. There can be triumphs of our art in its widest sense in the right expression of our mills and workshops—of our shops—of the dwellings of the people—our colleges, schools, and hospitals, as well as in our public buildings, our churches, our monuments, our pleasure houses, and palaces of luxury. But that expression to be true will have to arise out of and properly meet the requirements of to-day, building truly for the present and the future on the firm foundations of the past.

The end of the war is not in sight—the way is still long and the road to that end is hard and rough, but be the end near or far, it will only be reached when victory is assured to the arms and the causes of right and freedom for which the Allies are fighting so valorously and making such great sacrifices.

There is, however, a duty on those who cannot be used for war purposes (the men who have stayed at home) to prepare for the problems which were pressing before the war and will be more so in the days—which we hope will soon come—after the war is over and we are looking to the future: matters which are in the province of the elder men, those whose experience will naturally be called upon in the settling of some of the purely business side of our profession—that side without skill in which no architect can satisfactorily exercise his profession. It should now be the endeavour to remove some of these matters out of the way, making the path clearer for all, and particularly for those who have taken on the burden of military service—to face the many problems which the future will surely bring.

Conditions of Contract.

For many years it has been felt that the R.I.B.A. conditions of contract required revision, and the Practice Committee of the Institute has had the matter under serious consideration. So far back as 1907 the preamble of a memorandum was drawn up by the Practice Committee and submitted to the Council, pointing out the desirability of revision. In December, 1911, and April, 1912, valuable papers dealing with the conditions of contract and associated matters were brought before the members of the Institute in such an excellent manner as to give confidence that the important questions which have arisen would be dealt with on right lines, and a new form of contract suggested and arranged with the builders. Unfortunately this has not been carried out, and the contract stands in such a way as was said—"that we have lost sight of the fundamental relations between building owner, contractor, and architect—they seeming to deal with one another as antagonists rather than as co-operators in a peaceful undertaking." And then there is the statement that "perhaps the most serious defects of these conditions is that the architect is reduced to the level of mere agent for the building owner." It is a position—to quote from the memorandum referred to—"unfair to the contractor not in the long run to the interests of the building owner, dangerous to the architect, and derogatory to the dignity of our profession." I strongly recommend these papers published in the Journal of the Institute, and probably read by many of you, to your further careful consideration, and to express a hope that the Institute will not delay long in reporting on this very important matter.

The revision of the form of contract is being anxiously looked forward to by the builders, and at the conference of the National Federation of Building Trades Employers in August last the proposals of the North-Western Federation for a new contract form were under consideration. This form is, I presume, the one which was sent to the Council of our society, but not dealt with at all, as such a course was thought undesirable while the Institute was dealing with the matter and their report was shortly expected. I will therefore not discuss it now, but from what I have seen in the Press it does not appear to be helpful in the settlement of this very important question.

Fortunately for us, there are real and not the conventional relations between the parties to the contract which make it possible for architects to carry on their practice and deal with matters in such a way as to maintain the friendly relations between the building owner, the contractor, and the architect. My long experience of the best of the Lancashire contractors, of London contractors, and other parts of the country, leads me to the conclusion that generally, when fairly dealt with, they fairly deal, and the Lancashire business man, usually our builder owner, though always keen, believes in square and fair deal too. The contract is signed, but in the great majority of cases it is merely a matter of form and not referred to. Without good will and good faith on all sides no building work can be satisfactorily carried out—though there are cases in which protection is unfortunately required for all parties. It is undesirable, however, for any architect to advise the acceptance of a contract with a firm in whom he has not confidence, or who is known to be of a litigious disposition. It is equally undesirable for a contractor to undertake work under an architect in whom he has not confidence. Company promoting architects, building-speculative architects, and the like, who shelter themselves behind the name of architects are outside the pale of recognised professional practice, and must of necessity play a lone hand. I consider it something like a reproach, in which all parties unfortunately share, if it is necessary to resort to arbitration in the settlement of a contract the particulars of which should, of course, be properly drawn and faithfully and reasonably carried out.

Bills of Quantities.

There are many points raised in the papers I have mentioned which could be considered with advantage, but time will not permit now. In a provincial practice, however, it is generally understood that the bills of quantities, whether taken out by the architect or by an independent

eyor, are the basis of the contract. This consider to be the only fair way of dealng. In all interests and whether the uantities are taken out by the architect r by an independent surveyor, the charge or quantities should always be paid direct y the building owner, and not included s an item to be paid through the builder. he principle of sub-contracting for the arious trades is also recognised, and orks satisfactorily when the general conactor takes complete control and responibility in the carrying out of the works nd sees that the sub-contractors are prepared to follow on with their work as the ob requires.

Proposed Form of Agreement for Architects.

An architect undertakes his professional ork in good faith that the building wner is reliable and responsible and can e trusted to take a reasonable and usiness-like view of their relations and is illing to pay the usual and recognised harges for his services. In everyday usiness in Manchester there is no formal greement between the parties to conacts, which are often made verbally only n the Royal Exchange and of the value of ntold millions; these are faithfully carred through. There are rarely formal ontracts with architects for their services. ut in building works of magnitude likely o last for a considerable time, and with ll the difficulties inseparable from the arrying out of a large contract, an greement is desirable between the rchitect and the building owner, nd when arrangements have to e confirmed under seal an agreeent is necessary. I believe this is one of ne matters which have for some time been eceiving the attention of the Institute, and would be well if it could be completed. has always seemed to me that it would e desirable to have a model agreement vailable as a general standard which ight be adopted when occasion required. his agreement should be as concise as ossible, free from extraneous matter, and et forth the architect's position clearly, esides referring to a recognised scale of harges for his services. In connection ith an important building the agreement etween the architects and the building wners expressly states that "the architcts will act fairly as between the buildng owners and the contractor or conactors." Such action, of course, being ithin the lines of the contract undertaken. hat is the considered opinion of representative business men and their legal dvisers as to the proper position and right nction of the architect.

Scale of Charges.

In connection with the new scale of harges which is proposed, care will have be taken to differentiate in accordance ith the class of work to be undertaken. he scale revised in 1898 with a 5 per cent. ll-round charge is quite inadequate in e case of small works of an elaborate rchitectural character involving much etail; for large works of an industrial haracter—though specialists' knowledge nd experience are essential—the present ale charges for architectural services are ot practical in application and special rms have to be arranged. In any new ale which is adopted care must be taken ot to make it so that, in the building of small house for instance where there is ly limited capital, the building owner is nable to avail himself of the services of n architect, particularly of a young architct, who desires to maintain the professional scale of charges. The real strength and practical value of this scale will be proportionate to its reasonable adaptability to special as well as ordinary circumstances and varying classes of building. Some settlement of this question might be made so as to be available in the after-the-war time.

Signed Buildings.

I am sure there would be added interest to buildings in erection if the public could know the name of the architect responsible for the design. As the man-in-the-street, when in our cities, it would greatly increase my interest in the growth of a building if I could see, perhaps in some obscure corner, the architect's name. It is said to be reasonable for an architect to put, say, a small bronze plate on a building at completion, and to this permanent form of signing there is no professional objection at all, though it is rarely used. Why it should be considered necessary to suppress the name of the architect when the building is in progress I have never been able to understand, and the matter requires reconsideration.

Rights of Light and Air.

The simplification of some of the laws as those relating to rights of light and air requires attention. There are also problems of special interest to architects likely to arise at the conclusion of the war and how best to adapt ourselves to the new conditions which will be produced, and on which the national as well as our future professional prosperity depends. I know the difficulties in dealing with these and other matters. The architectural profession, with its many interests, is a very onerous and absorbing one, involves much close personal work, has many anxieties, and great responsibilities. There is little leisure or opportunity in the lives of the busy men and those whose opinions are of the greatest value to meet together for the discussion and settlement of the many points which are vital to the interests of the profession as a whole, and which have arisen and will arise. In this way, perhaps, architects have not made themselves unitedly so strongly felt in the community as the importance of their profession justifies.

Monetary Value of Good Architecture.

There is no doubt that there is an increasing, but too slowly increasing, public interest in and appreciation of good architectural design, both in the general schemes—the planning—and the artistic expression of our buildings and their surroundings. Commercialism is developing a sense of beauty and finds added monetary value when the buildings are of architectural interest. As John Burns said recently: "Beauty is not only pleasing to the eye and consoling to the mind in a great city. It pays in solid cash." Monetary value is, after all, the average man's measure of value in the world of practical things. That good design pays both in commercial and domestic buildings is one of the tributes to our time and will help forward that national architectural Renaissance, about which so much has been thought and written. It is for architects to help in every way they can to maintain this interest and to foster it.

The Vision Beautiful.

We, the elder men, must play well our part in maintaining a high status for our profession, doing everything we can for its future strength and welfare, knowing full well how greatly it is in the national interests to do so. In our time—the best time to have lived in for the majority of the people in England the world has ever seen—we have dreamed dreams of what might have been and have had high hopes, but to the younger men who are making such great sacrifices for their country will, we all trust, be vouchsafed the vision beautiful of what may be.

DALDERBY CROSS.

The Dalderby Cross, which was recently unveiled by Sir William Robertson, K.C.B., D.S.O., was offered by the members of the Lincoln Chamber of Commerce to the village or hamlet which sent, as volunteers, the greatest percentage of its eligible manhood to fight for King and country before May 1, 1915. The ground has been given by Mr. F. S. Dymoke, of Scrivelsby Court, on what may be called the old pinfold of Dalderby. This has been made over by him as a freehold for ever for the purposes of this memorial. The site for the memorial is a corner one, standing some three feet above the level of the road, and will be fenced with rustic woodwork (given also by Mr. Dymoke) of simple design, with one small handgate, so that anyone interested may walk round to inspect the memorial.

The memorial proper is of fifteenth century conception, much after the style of the hooded and sculptured crosses, examples of which are to be seen in Lincolnshire. The foundation slab is in one piece, 8 ft. across and 12 in. deep, on which stand two octagonal super bases of Bramley Fall stone. The third base is of Weldon stone, on four corners of which are carved in relief four shields with the familiar mottoes, "Pro Deo," "Pro Rege," "Pro Patria," "Pro Recto." Next above is a very dark polished granite base, with tapering faces, on which are placed the inscription and names of the volunteers of Dalderby. From this rises an octagonal shaft surmounted by a moulded and battlemented cap, this supporting the Cross proper (all of Weldon stone), one side being enriched by a very chaste figure of Christ crucified, treated in a quiet, resigned spirit, and on the other side a woman with cloak partly protecting a poorly-clad youth. The crucifix expresses the Christian emblem of self-sacrifice for others, and the woman and child represent those dear ones for whom our gallant soldiers are fighting. The whole memorial, which is of excellent conception, stands nearly 17 ft. high to the top of the hooded and batlemented cross.

The inscription reads as follows:

In Honour of the Men of Dalderby,
Who Voluntarily Served their King and
Country in the Great European
War, 1914: H. Billing, J. W.
Garner, H. Garner, R. G.
Garner, J. E. Rylatt, E. A. Rylatt,
J. Scholey, T. W. Scholey, W. White.
A. White.
Presented by the Lincoln Incorporated
Chamber of Commerce, A.D., 1915.

The work has been designed by Mr. A. J. Tuttell, sculptor, Lincoln, who has also given the top part of the cross, including the sculptured figures, which are his own personal work. The large landing and foundation slab has been given and put in by Mr. J. M. Harrison, builder, of Lincoln. The monument proper, including bases and shaft and the cap under the carved cross, also the fixing have been

given by other members of the Chamber of Commerce. Messrs. Robey and Co., Ltd., Lincoln, gave the use of a steam tractor to convey the memorial from Lincoln to the site. The complete weight, as now fixed, is computed to be about six tons, including the large bottom slab.

Messrs. M. Tuttell and Son, sculptors, are responsible for carrying out the work.

THE CAUSE OF THE QUEBEC BRIDGE DISASTER.

In our issue for September 20 we published two views showing the main trusses of the new Quebec Bridge across the St. Lawrence and the central span, 640 ft. in length and weighing more than 5,000 tons, which failed with such disastrous consequences when being hoisted into position on September 11. Various accounts of the cause of the failure have been put forward, but the latest theory is given in an issue of the "Engineering Record" (New York) just to hand, and in view of the importance of the matter we think it of general interest to reproduce from our contemporary the accompanying illustrations, with the following particulars:

To understand fully what occurred the reader needs to comprehend clearly the detail of the rocker-joint bearing between the lifting girder and the suspended span. The main features of the bearings are three steel castings and two forged pins. The latter are at right angles to each other and, with the castings, form a universal joint. It should be understood that the bearing shown in the photograph here reproduced does not represent the detail as it was when the span was being hoisted. Previous to floating and after this photograph was taken, two hitch connections, indicated in the diagram, were added. These hitch connections carried the lifting girder when the span was being floated up the river. Then when the span was on the barges, centering plates were added. These plates ensured the absolute centering of the lifting girder on the bearing when the load of the span was transferred to the hoisting chains. These plates were shop-fitted and bore against a chipped surface on the arm *C* of the intermediate casting. A black streak at *D* shows plainly where the chipping was done in one of the angles of the casting. The plates and castings were match-marked. It was therefore impossible to put them in place until the girders were accurately centred on the intermediate casting. Once in place they prevented movement in a direction parallel with the length of the span. Their use permits one to dismiss immediately any theory that the load was placed eccentrically on the girder and caused it to cant.

The south-west corner was the point of initial failure. In no way, except by the falling of the span through the breakage of one of the castings or of a pin above, could the damage shown have been wrought. The failure of a pin is unlikely. Something broke and precipitated the span outward toward the river and toward the longitudinal axis of the structure. The angle of movement was about 30 deg. with the bridge axis. The span moved not longitudinally over the long pin but in a diagonal direction. This could only have occurred if something above broke. The breaking of a main truss member—which has been dismissed by every engineer for obvious reasons—would have probably carried the end off in a direction parallel with the pin. A study of the other three lifting girders also tends to corroborate the conclusion drawn from the south-west girder.

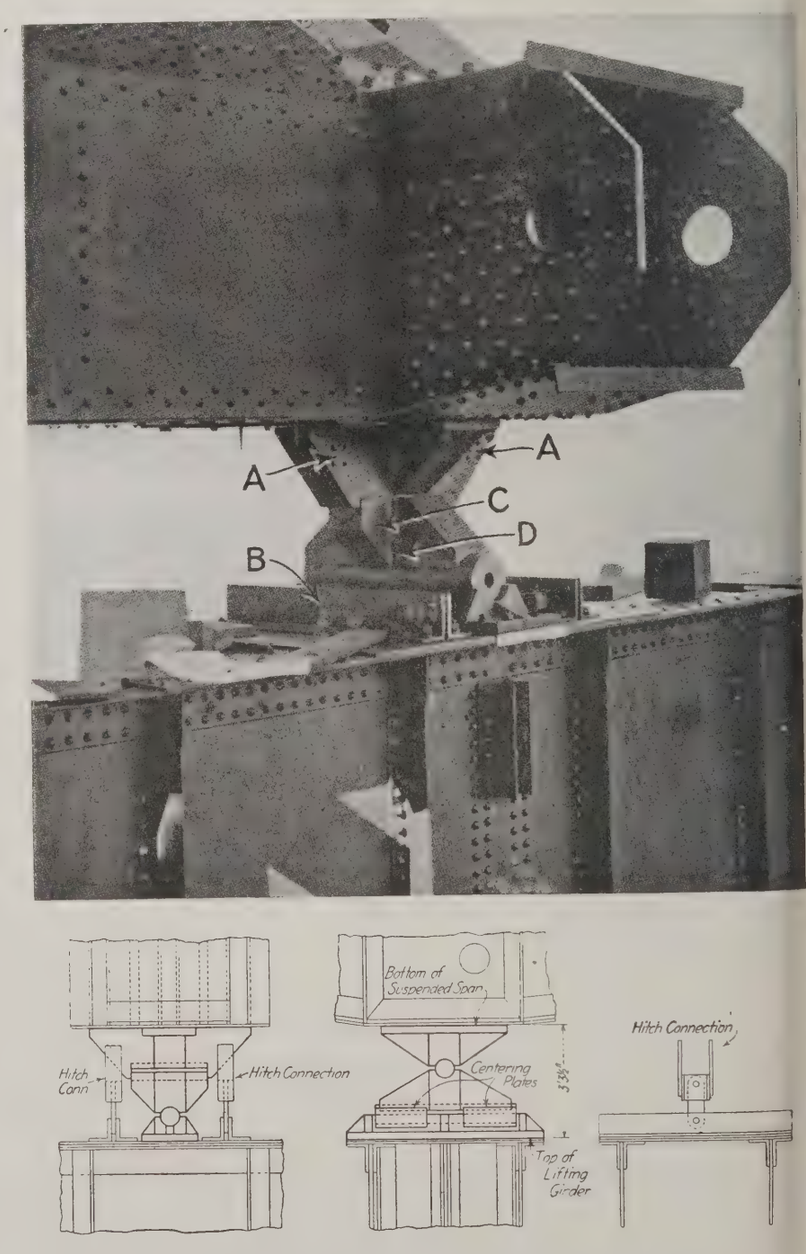
The falling of the south-west corner twisted the south-east corner of the span in a counter-clockwise direction (looking at it in plan) and at the same time carried it in a clockwise direction, considered in a vertical plane parallel with the lifting girder. The counter-clockwise movement accounts for the flaring of the plates. This movement also explains how the transverse pin came to fall into the longitudinal bearing, after the longer pin had disappeared.

The crushing of the angles on the side toward the inside of the span indicates that this corner, too, went off in a diagonal direction—toward the centre and the inside of the span.

The main conclusions, therefore, are that the span did not slip from the hanger, but that the cause of the failure was the breaking of the casting of the rocker-joint bearing.

GLASGOW INSTITUTE OF ARCHITECTS.

A general meeting of the Glasgow Institute of Architects was held on October 1 in the secretary's chambers, 21, West George Street, Mr. John Watson, F.R.I.B.A., president, in the chair. On the recommendation of the Council, Sir R. Rowand Anderson, LL.D., F.R.S.E., Edinburgh, was unanimously elected an honorary member of the Institute. The secretary submitted the report of the Council on matters dealt with since the previous general meeting. It stated that Mr. John Watson (president) and Colonel J. B. Wilson were reappointed governors of the Glasgow School of Art for three years. Representation had been made by deputation and correspondence in connection with the recent Order restricting building contracts, that as the appointment of inspectors to advise the principal authority in London had been found necessary



QUEBEC BRIDGE DISASTER: DETAILS OF ROCKER-JOINT BEARING.

e working of the Order, the services of chitects practising within certain recog-ed areas should, in the interests of tional efficiency and economy, be lised for the purposes of such inspec-n. It was suggested that the Ministry Munitions, London, ought to recognise e districts in Scotland apportioned to e four architectural societies allied to e Royal Institute of British Architects units, and the council of the society each of these districts should prepare a t of the names of competent and reliable n for selection as inspectors. The re-rt also stated that at a conference held ently in Edinburgh, under the chair-anship of Sir G. R. Askwith, regarding e regulations for contracts for building rks in Scotland, the point at issue re-rding "after-measurement" had been scussed, and it was agreed that the chitect had the sole right to say whether after-measurement" should take place not. The regulations would accordingly come operative as soon as this had been mally agreed to. Intimation would be ade to the members of the Institute nen they became operative.

ROPOSED NEW MERSEY TUNNEL

The idea of a traffic tunnel under the ersey is again revived by a letter from r William Forwood, who thinks the pro-ct a less expensive way of relieving the mensely developed cross-river luggage affic than by means of a bridge. He timates the cost of this tunnel, con-ructed with tracks for both slow and fast oving traffic, at £1,200,000. The ap-oach at each end would be by a spiral bway.

In explaining the outlines of the scheme, r William says: Taking the large but ly possible view of the future growth of e trade of Liverpool, the only permanent lief would be either by a bridge over the er or by a tunnel under. When we con-der the cost of a bridge the length of the proaches, and consequent delay to traffic, say nothing of the obstruction to the vigation of the river, I think we must smiss any idea of constructing a bridge.

A tunnel seems to me to offer a satisfac-ry solution of the difficulty. The gradual t certain adoption of motor traction for th fast and slow vehicles would greatly cilitate the working of a tunnel.

The tunnel would be approached by a bway with a gradient of, say, 1 in 20. here is ample room for its construction the Pierhead. The approaches for traffic om all points would be excellent, and it ight be made an architectural feature. here is also ample space for a similar iral subway on the Birkenhead side posite to the entrance to the landing-age.

The centre of the spirals might be used r passenger lifts, but I think the pas-nger traffic would be conveyed by motors by electric trains. It would be possible no great extra cost to construct a double e of roadway through the tunnel—one tramway and the other a plateway, thus oviding for fast and slow traffic.

I have the authority of an eminent en-neer for stating that the cost of a tunnel ould be £600,000, and we may add other £600,000 for the approaches, and e have thus a cost upon which a reason-le profit would be certain. I know that e construction of such a tunnel during e period of war cannot be contemplated, t I venture to throw out this suggestion at we may have time for its considera-n.

INDUSTRIAL LIGHTING BY ELECTRICITY.*

BY FREDERIC H. TAYLOR, Assoc.M.Inst.E.E., Assoc.M.Inst.M.E.

If any justification were needed for giving the utmost prominence to this subject it would be found in the following statement: That unsatisfactory illumination results in: (1) An increase in the number of accidents to persons using the premises concerned; (2) Possible damage to eyesight and to health; (3) Diminished output of work; (4) Imperfect discipline.

The terms "lighting" and "illumination" are generally rather mixed in their application—in fact, the former is commonly used where the latter is really intended. Illumination is, of course, a measurable quantity, and is taken as the intensity of the light falling upon a given surface.

Systems of Lighting (i.e., Lamps).

Of the many systems of electric lighting which have seen the light of day and added to the light of night, the ones at present claiming our attention most are: Arc lamps and incandescent lamps, the latter being sub-divided into the carbon and the metal filament types, this last comprising the ordinary vacuum lamp of a reputed efficiency of about 1.2 watts per candle-power, as well as its very modern successor the "half-watt" or gas-filled lamp. Each have their proper sphere of application, and, without a careful inquiry into and a study of all the conditions peculiar to each case, waste and inefficiency inevitably result. Lighting no longer consists in merely hanging up lamps but rather in a proper study of all the conditions obtaining, such as area, height, nature of work carried on, reflecting surfaces, system of current supply, etc. Proper switch control and a suitable system of wiring also enter more or less directly into the ultimate efficiency of the installation as a whole.

Overall efficiency, or watts consumed per candle-power given out, is usually the main if not the only point considered in the selection of lamps. This should not be; it should rather be the total cost per candle-power hour, which, of course, takes into account the first cost of the lamp and its life, as well as the cost of current. In a case within the author's experience it paid to use the old-fashioned carbon filament lamp with its wasteful consumption of $3\frac{1}{2}$ watts per candle-power. This occurred in a factory where not only were more lamps lost by breakage than by ordinary burning out, but the current was supplied by steam-driven generators, the boilers for which were fed entirely on refuse which would otherwise have cost money to cart away.

The Lay-out of Lighting Schemes.

The tendency of the present day, in arranging schemes of artificial lighting, is, as in many other matters, to endeavour to crystallise the whole matter as much as possible, and in the case of lighting into three points; that is, height of lamp or lighting "unit"; spacing distance; and the candle-power of the unit employed. One realises this from an inspection of the catalogues of the several enterprising firms who specialise in lighting material, and who publish so much information concerning their manufactures for the guidance of potential purchasers.

Whilst useful enough and easy of application in *new* buildings, where the architect is willing to give consideration to the requirements of artificial lighting, in *old* buildings the points mentioned commonly have to be the subject of part consideration only, in order that other influencing conditions may have necessary consideration. Hard and fast rules for the lay-out of artificial lighting in an industrial type of building would therefore appear to the author as undesirable, even if possible of general application. It is true that progress is being made in the direction of deciding as to what is a suitable standard or intensity of illumination for various processes and kinds of work, but this is, and will probably remain, as the *minimum* illumination necessary rather than the average. Lay-out must, therefore, be settled not on this point only, but on due consideration of the many other variable points which will be found to enter into almost every case one meets in practice.

A point one would specially draw attention to in this connection is the need of "general" as well as "local" or "individual" lighting in most, if not all, of the premises which the mechanical and the civil engineer have to deal with. Individual or local lighting of sufficient intensity for machine tools, benches, desks, etc., is necessary if each operator is to properly perform his duties. "General" lighting, on the other hand, is equally necessary, for by this proper supervision and discipline is possible and the safety of those persons secured who have to move about through passages and gangways. This need of "general" lighting is, even at the present time, often entirely overlooked.

The "general" lighting should be so arranged that a fairly uniform illumination is produced, say with an allowable variation between maximum and minimum of 20 to 25 per cent., and where individual lighting is additionally provided the value of the former is considered sufficient if of the nature of about 1.5 foot candles. Compared with the recommendations of the Home Office Committee such a figure will seem luxurious; the recommendations referred to being: (1) .25 of a foot candle over "working areas" of workrooms (without prejudice to the illumination required for the work itself), and (2) .1 of a foot candle in all parts of factories and workshops not included under (1) and where persons are liable to pass.

Standards of Illumination.

The figures quoted by various authorities show considerable variation in idea as to what is considered necessary, as the following extracts will show:

In a drawing office—
- (a) 6 to 10 foot candles.
- (b) 7 ,, ,,
- (c) 8 ,, ,,

In a warehouse or stock room—
- (a) .5 to 10 foot candles.
- (b) 1.5 to 2 ,, ,,

In a foundry—
- (a) 3 to 4 foot candles.
- (b) .4 of a foot candle (minimum).

In offices—
- (a) 4 foot candles.
- (b) 3 ,, ,,

The author would suggest that the adequate standard of illumination is such as will allow the process to be carried on or the work to be done without eye-strain or special effort on the part of the operator.

In this matter personal prejudice often counts most, where the layman is the only

* Extracts from a paper read before the Junior Institution of Engineers on October 18.

authority concerned—many persons from sheer want of observation having no idea as to what is adequate illumination.

In the near future probably the greatest importance of a standard of illumination in places coming under the Factory and Workshop Acts will consist in a Government standard of a minimum illumination everywhere. It is to be hoped that when our great country returns once more to the gentle arts of peace legislation of this character will be enacted, as well as other regulations incidental thereto, which will result in intelligent methods of artificial lighting, profitable to the owner and beneficial to the workman.

Such an event would bring into greater prominence the measurement of illumination, which, until recent years, had been practically left untouched. By measurements, taken at regular intervals of time, any deterioration is detected and the cause of it removed. Deterioration may readily be so gradual as to pass unnoticed, but its results will inevitably occur; that is, imperfect quality or decreased output of work. The modern "illumination" photometer is an instrument which is simple, reliable, cheap in first cost and well worthy of more extended use.

The Essentials of Satisfactory Illumination.

These may be summed us as comprising:

(1) Adequacy; that is to say, the *degree* of illumination produced on the working surface must be sufficient for the work or operation to be properly carried on. On the other hand, over-illumination is quite possible and its effects are naturally harmful. (2) The lighting unit or source of light must be so placed that the light does not strike directly upon the eye of the operator either when he is engaged in his work or when looking horizontally across the workshop or room. This recommendation of the Home Office Committee may be summed up in the words: "Light on the object and not in the eye." Thus "glare," whether produced directly or indirectly, should be avoided. (3) The lighting units should be so placed as to prevent shadows on the work or heavy shadows about those parts of the premises to which the workpeople have access. This does not suggest that an absolutely uniform degree of illumination everywhere is necessary. The opposite is desirable as affording relief by contrast. (4) Constancy, so far as the degree of illumination is concerned, is also necessary. Where the current is supplied from public lighting systems, there is usually little or nothing to complain of in this direction, but where the lighting receives its current from a private plant on the premises, constancy of illumination is by no means always prevalent.

Reflection and Colour.

The value of these two factors in artificial illumination is commonly overlooked.

As regards the value of "general" reflection, that is to say, from the walls and ceiling, the Factory and Workshop Act has, by its insistence as to regular limewashing, done much to provide a cheap and effective reflecting surface of the highest order. The experiments carried out at the National Physical Laboratory by the Home Office Departmental Committee, in a room specially fitted out with different methods of lighting, may here be cited.

Three systems of lighting were tried: Direct, indirect, and shielded. With the walls blackened instead of whitened, the reduction in illumination at the centre of the room was approximately 25 per cent. for direct lighting; 7 per cent. for indirect lighting, and negligible for shielded lighting. The influence of colour in artificial lighting is often overlooked. Lighting of a colour that will enable a person to not only do his work but remain at it for hours at a stretch without feelings of fatigue or depression is obviously desirable.

We are naturally inclined to light of a reddish tint or at least light of a colour associated with that end of the spectrum. The present lighting restrictions have in many cases appreciably altered the colour of both natural and artificial lighting, glass roofs and side windows being painted a deep blue. The effect of mental depression on remaining under blueish light for any length of time in some persons is most noticeable. Mercury vapour lamps when used for general lighting have been noticed to give different results with different people, where all other conditions were equal; one man, for example, insisting on the addition of an ordinary glowlamp in order to carry on his work, whereas other workers considered this quite unnecessary.

Direct or Indirect Lighting?

As to which of these two systems should be chosen for factory lighting is a question which has been the subject of some considerable argument during the last few years. The use of metal filament lamps of high efficiency, candle-power, and intrinsic brilliancy has undoubtedly made indirect lighting possible where it would be otherwise quite unthinkable. The results of the Home Office Committee's tests in connection with this matter, and which have already been briefly referred to, would suggest that with indirect lighting the illumination was required to be greater than with direct lighting. Even where a comparatively uniform degree of illumination everywhere is required, this can be obtained by modern types of reflector whose characteristics are known to start with, combined with careful spacing of the lighting units.

A SCOTTISH NATIONAL CONGRESS ON HOUSING.

Arrangements have been completed for holding a "Scottish National Congress" in Glasgow on November 27 and 28, to consider the preparation of housing and town planning schemes to be put in operation at the close of the war. The congress is the outcome of the deputation to Mr. Walter Long a few weeks ago, when the President of the Local Government Board, in expressing his warm sympathy with the objects and aims of the National Housing and Town Planning Council, declared that of the many urgent social problems that had to be dealt with, the one that came first and foremost, and without which all the others were useless, was the question of a proper provision of houses for the people of the country. An appeal will be made to the Scottish members of Parliament to support Mr. Long and Mr. Tennant in giving legislative effect to a scheme which will serve the dual purpose of providing healthy homes in districts where the shortage of houses has become a menace to the health of the community, and of averting any crisis of unemployment which may arise in the building trade at the close of the war.

WORKERS' VIEWS ON THE HOUSING QUESTION.

What the workers are thinking with respect to the housing question is rather difficult to ascertain. Their views on the matter, however, are obviously an important factor in the problem, and architects will therefore read with interest the following abridged report of a conference of representatives of trade unions, trades councils, and the Independent Labour Party and the Scottish Labour Party, which has been held in the Melbourne Hall, Edinburgh, to consider the question of housing in the Rosyth area. The meeting was called by the Scottish Labour Housing Association, and Mr. A. Eunson presided over about sixty representatives from the districts concerned.

Mr. Robert Allan, president of the Scottish Trades Union Congress, moved a resolution expressing the opinion that the number of houses being built to accommodate the workers at the Forth Naval Base is insufficient to meet the present requirements, and urging upon town councils and local authorities in this area to request the Government, to give grants, free of interest, to enable them to prepare and proceed with a comprehensive building scheme. He said that the Government had placed in the hands of a company the building of houses for the workers at Rosyth, and they had contracted to build 3,000 houses. Some 600 had been completed or were in course of construction. The Government had advanced to this company no less than £900,000 at 3½ per cent. per annum, and to repay that there was added a sinking fund, so that this company had to pay 4 per cent. on the house that they constructed. He thought that private enterprise having totally failed in the provision of healthy homes for the people, it was imperative for the Government to come to the assistance of the people and provide homes for them. It would be far better for the Government to undertake direct through the local authority the provision of homes for the people. The rents charged for houses containing a kitchen, a living room, and three small bedrooms, Mr. Allan said, ranged from £2 to £33 per annum. It was quite impossible, in his opinion, for working-men with the present wages to pay rents like these, and consequently the workers were crowding into other localities round about and into Edinburgh and Leith, and so making the congestion in these places very acute.

Mr. T. Hamilton, Rosyth Worker Union, said that there were 1,400 members of his union working at Rosyth, about 800 to 1,000 of whom had come from the South of England on the understanding that there would be sufficient housing accommodation provided. They came from the English cottage housing system, and they had been forced to select houses in Edinburgh, Dunfermline, or Kirkcaldy, and travel from fifteen to seventeen miles to and from their work.

Mr. Hamilton said it must be the highest paid artisans, with possibly some of the family working, who were paying £2 rents. There were going to be 15,000 men at Rosyth, and 8,000 to 10,000 would be labourers.

Another worker said in England he had four beautiful rooms for 5s. a week. Now he shared a flat with another family at 9s. 3d. a week.

Mr. Simpson (Shaleworkers) said he had visited the garden city at Bournville, and there the houses ranged from 4s. to 8s. per week.

THE REBUILDING OF DUBLIN.

Trade Union Protest.

At the monthly meeting of the City of Dublin Stonecutters' Trade Union, held at 1, Parnell Square, Mr. Joseph Goodwin presiding, the Secretary (Mr. J. J. O'Looney) said they were in the middle of a serious crisis for the building trades of Dublin. The most important portion of the city was in ruins. Lower O'Connell Street, Earl Street, Henry Street, Abbey Street were desolate wastes, and there seemed to be no immediate prospect of this condition of things being made good. Under the circumstances it was up to the building trades to be active and earnest and force the pace. He was aware that certain city firms were prepared to build at once, and these firms were in positions that would not interfere with any scheme for improving or widening certain portions of the city. Food was dear, other necessaries of life were dear, employment was scarce, and the outlook was bad this winter for the workless workers of our city. What was the remedy? He maintained that the Corporation—subject to necessary requirements—should allow those who were able and willing to build to do so at once, leaving the question of compensation to be determined at a future date. Such action could at once employ large numbers of the building trades, and he appealed with confidence to the Town Clerk, the Borough Surveyor, and the City Architect to expedite this good work. He suggested that a deputation from that meeting wait upon these officials and urge these views. In view of the Bill now before Parliament in reference to rebuilding, the following resolution was passed and ordered to be sent to the four city members and the members for Trinity College: "That this meeting, voicing the feelings and needs of the Dublin building trades, earnestly urges the members for the city and Trinity College to use their best exertions to have the Dublin Rebuilding Bill passed with all possible speed, thus giving badly needed employment to needy and suffering workers." The resolution was carried, and copies ordered to be sent to the Parliamentary representatives and others.

Corporation and Property Losses Association.

It is stated that an agreement has been arrived at between the representatives of the Corporation and a Sub-Committee of the Property Losses Association regarding the terms of the Reconstruction Bill to be presented by the Chief Secretary to the present Session of Parliament. The representatives of both bodies held altogether six conferences upon the points at issue. All the questions in dispute have now been amicably arranged; and it is understood that the Chief Secretary will soon present a Bill on the lines agreed to.

In the negotiations the Corporation was represented by the Lord Mayor, Alderman Harman, Alderman M'Carthy, and Councillor John Ryan; and the Property Losses Association by Mr. Wm. M. Murphy, Sir Thomas Robinson, Mr. Chas. Eason, and Mr. Marcus Goodbody.

Question in Parliament.

In the House of Commons, Mr. Clancy asked the Secretary to the Treasury whether his attention had been drawn to the many complaints made as to the delay in making known to those concerned the compensation which is to be paid to owners of property destroyed during the course of the recent insurrection in Dublin; whether the Government intend to act upon the recommendations of their Committee of Inquiry into the claims made for such compensation; if they do, what is the objection to giving the owners particulars of those recommendations; and whether anything is to be done to hasten the proceedings in this matter, so that payment of the compensation fixed upon may be made as soon as possible?

Mr. Duke: The allegations as to delay are quite unfounded. I may state that out of 1,235 claims included in the first five lists of recommendations received from the Property Losses (Ireland) Committee, 1,195 have been paid in full; in twenty-eight cases payments have been made on account; and in only twelve cases have no payments been made. The Committee was appointed to ascertain certain facts and advise on them. It is for the Irish Government and the Treasury to decide, after considering the statement of the Committee, whether the ex gratia grant recommended in any case comes within the limits of the liability which the State agreed to assume; and until that question is decided it is not possible to tell the claimant the amount which he is to receive.

NEWS ITEMS.

Huts as Dwellings.

So great is the scarcity of houses in Newcastle that a movement is on foot for the erection of a large number of hut-like houses as a temporary expedient.

Cottage Homes for Aged Workmen.

During the present year the miners of Durham, in addition to many efforts for war-time charities, have contributed £2,635 for the building of more cottage homes for aged workmen.

Building Trade Bonus in the North.

Some time ago a war bonus of one halfpenny per hour was granted to workmen employed in the building trades in the Hartlepools, Stockton and Middlesbrough. It has now been agreed that an additional three farthings per hour be granted to joiners and one halfpenny per hour to the other trades from October 7.

Memorial to the Founder of the Y.M.C.A.

A memorial to Sir George Williams, founder of the Young Men's Christian Association, was unveiled by the Marquess of Bath, Lord-Lieutenant of Somersetshire, in the Shire Hall, Taunton, on October 16. The memorial takes the form of a bust, the work of Sir George Frampton, R.A.

Birmingham Town Planning.

At a meeting of the Birmingham City Council, the Lord Mayor presented the report of the Town Planning Committee, which included a recommendation of the committee for authority to prepare a town planning scheme in respect of an area in the south-west of the city. Alderman Neville Chamberlain explained that this new plan would serve to bring within the jurisdiction of the committee the whole of the remaining undeveloped area of the city on the south side. The recommendation was approved.

Birmingham Operatives' Threat to Strike.

The application of the building trade operatives in Birmingham for a war bonus of 2d. per hour having been refused by the masters, a ballot of the men was taken as to whether they should cease work. This has resulted in an overwhelming vote in favour of a strike, and future action was to be decided upon at a subsequent meeting to be held. In course of an interview Councillor Saunders, the secretary of the men's trade union, said the men had been willing that the matter should be referred to arbitration, but the Birmingham Building Trades Employers' Association, in their last communication to Sir George Askwith, said their association was not prepared to agree to arbitration. The position applies to all sections of the building trade in the Birmingham area. The main point set forth by the operatives in support of their claim is that the cost of living has increased since the builders agreed to ½d. an hour war bonus in October, 1915.

Inverurie Master Carpenters' Association.

At a recent meeting of the Inverurie and District Master Carpenters' Association in Aberdeen, Mr. John Buchan, builder, Monymusk, the president, in the chair, on the motion of the chairman, seconded by Mr. William Hendry, Wartle, it was unanimously agreed to rename the Association "The North-East of Scotland Master Carpenters' and Joiners' Association." Mr. John Watt, treasurer of the Association, submitted the annual balance-sheet, which was adopted.

HOUSING REFORM IN LIVERPOOL.

At their final meeting of the session, the Liverpool Housing Committee, which will not sit again before the expiry of the municipal year, Mr. Richard Rutherford mentioned that during the past fifty years the Housing Committee had expended a little less than £1,250,000. When they paid off their sinking fund they would have a great estate. In no small measure was that result due to Alderman Harford as acting chairman of the committee during the past two years and as deputy-chairman for the last ten years. He had done a great work for the uplifting of the poorer sections of the community.

Alderman Harford, in reply, said the whole of the committee were dominated by the desire to do their best for the city. He referred to the recent opening of Corporation dwellings in Jordan Street, and said that the playground had been a huge success. The laying out of playgrounds was a form of "extravagance" about which the Housing Committee would be downright obstinate, so far as it was in their province to provide playgrounds for the children of the working classes. In the more recently opened Sparling Street dwellings he was glad to say that most of the tenants were those who had been dispossessed from the old property on the same site. Touching on the effects of the war, Alderman Harford mentioned that the rents paid by tenants in all the Corporation dwellings for the quarter ending September 30 amounted to £7,070, whilst the cash actually collected was £7,135, being 100.92 of the rents that had accrued—a clear proof, he submitted, of the genuine desire on the part of the tenants to meet their obligations. Out of 2,822 available dwellings only two were unoccupied. He added that 780 tenants of Corporation dwellings had joined the forces since the outbreak of war, apart from the large number of dependents who had joined. He hoped that when the war was ended the public would realise that for the cost of one Dreadnought they could practically wipe out slumdom in Liverpool and provide excellent accommodation for the workers of the city.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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ARCHITECT'S Assistant seeks Engagement. Designs, working drawings, details, specifications, quantities. Ineligible for Army.—E., 30, Camden-road, Wanstead, E.

BUILDER'S General or Working Foreman requires engagement; fourteen years' experience on various classes of work; London and country; good references; by trade, carpenter and joiner; any offer considered; now disengaged.—Curtis, 509, Waterside, Chesham, Bucks. 913

BUILDER'S Assistant seeks engagement; thorough practical experience in supervision, quantities, estimating, draughtsmanship, measuring, accounts, and all office routine; age 25; ineligible.—E. D., 130, Edenbridge-road, Enfield.

BUILDER'S General Foreman (disengaged) requires situation; just completed Government contract; used to all kinds of building contracts; town or country; excellent references.—G., 112, College-place, London, N.W.

BUILDER'S General Foreman; age 49; twelve years' experience with new and alteration jobs; energetic, good timekeeper; trade, carpenter.—S., 6, Stanger-road, South Norwood, S.E.

BUILDER'S Assistant seeks engagement. Clean draughtsman. Preparing of plans, details. Supervising of works, alterations, etc. Knowledge of quantities and estimating. Discharged Army. First-class references.—Davey, "Glansevern," Nether-street, North Finchley, N. 903

BUILDER'S General Foreman just disengaged. Competent, reliable, good draughtsman and manager of men. Excellent references.—C. W. 6, Roland-road, Walthamstow, N.E. 908

FOREMAN Plumber seeks re-engagement; just completing large munition factories; first-class references.—27, Millard-road, Stoke Newington, N.

GENERAL Foreman seeks re-engagement; town or country; new or alterations; just finished hutments with R.E.; carpenter and joiner; good references.—C. H., 6, Marshalls-road, Sutton, Surrey.

GENERAL Foreman disengaged; 43; joiner; new or alterations; town, country, or abroad.—S. J., 10, Eynham-road, Shepherd's Bush, W.

MOSAIC worker; figure work and all high-class decoration.—G. B., 179, Osborne-road, Brighton.

PAPERHANGER (over twenty years' London, West End, experience) wants piecework. Well up in all specials, panelling, etc.; best work only. Town or country.—Robert Clifton, 31, Ospringe-road, Kentish Town, London, N.W. 905

PLUMBER (registered) wants re-engagement; experienced in all latest sanitary work.—Plumber, 5, Byton-road, Mitcham-road, Tooting, S.W.

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

WAR-TIME assistance (temporary or occasional) offered by advertiser; wide experience building accounts, measuring, schedule work, estimates, etc. —Stone, 12a, Brewer-street, Victoria. 911

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Appointments Wanted—*Continued.*

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The object of the Professional Employment Committee is to provide temporary paid work for British architects who are entirely dependent upon their profession for their living, and whose present difficulties are due entirely to the war. Applications can only be considered from architects who are ineligible for military service and unable to obtain War work of a professional nature. Enquiries should be addressed to the Honorary Secretary of the Committee at 28, Bedford Square, London, W.C.

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MR. C. H. HALSEY will SELL by AUCTIO LAND adjoining the NEW CARRIAGE SHED direction of Messrs. C. H. HUNT & SON, on TH DAY, OCTOBER 26, 1916, at 1.30 o'clock, BUILDER'S PLANT, comprising an 8-h.p. por steam engine by Marshall, a 7-ft. mortar mil engine combined, a power ballast washer and co mixer, a 6-ft. mortar mill, two iron stone-cru a 1,000-gallon cistern, portable office, three ti built sheds, and a large quantity of building rials.
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THE
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AN EGYPTIAN COMPOSITION.

(By A. C. Conrade.)

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 1, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1139.

EDITORIAL.

VERY properly, Sir John Burnet has declined to act as assessor in the Australian Commonwealth Federal Parliament House architectural competition, unless the promoters consent to postponement during the war. A letter addressed to the High Commissioner by Mr. Ernest Newton, President of the R.I.B.A.; and correspondence between Mr. Walter B. Griffin, Federal Capital Director of Design and Construction; the Hon. King O'Malley, Commonwealth Minister for Home Affairs; and Sir John J. Burnet, are reproduced in this issue, and it will be seen that the door to reconciliation is left ajar. No heat has been imported into the discussion, and none need be. It is certain that in this country there is no disposition to quarrel with the Commonwealth Government. A lively sense of gratitude for what Australians are doing in the War precludes every feeling but that of regret that this difference of opinion should have arisen, and more especially that the Commonwealth Government should persist in a course that is so demonstrably inadvisable.

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In the President's letter the case for architecture is stated with admirable restraint; and the tone of Sir John Burnet's dispatches is equally dignified. Nor is there anything objectionable in the letter from Mr. W. B. Griffin, except the argument for proceeding with the competition, which, as Sir John Burnet has shown in his reply, is extremely weak. Mr. Griffin speaks of keeping faith with the architects who have "registered" for the competition, and Sir John asks whether there is any reason to believe that architects registered from Allied countries are likely now to be able to submit designs: "Our manhood up to forty years of age is engaged in military service, and many above that age are engaged in home service." Consequently, as Mr. Newton has represented, a competition held now would be in no sense international, but would be practically confined to neutral countries. Admitting that—against all probability—a good design might in these circumstances chance to be obtained, it would nevertheless materialise in a perpetual monument to obduracy. Sir John Burnet, in making it perfectly clear that in such circumstances he would decline to act, shows the Commonwealth Government much consideration in leaving the matter open. If they see fit to postpone the competition, well and good; if they determine to proceed in opposition to well-weighed and courteously expressed architectural opinion, he will reluctantly withdraw; and we should be astonished if the other architect-assessors did not promptly follow his example. In that case the position of the Commonwealth Government in the matter would be anything but enviable, and we trust that they will yet see the wisdom of postponing the competition. Patriotism, common sense, and expediency, concur in favour of this course; and the more promptly it is adopted, the more graceful the action.

* * * *

From all quarters come evidences that the almo feverish discussion of the housing question continu unabated. Except the War, there is no curre topic of equal prominence. Corporations have on almost every agenda paper; it crops up at almo every meeting of the organisations of employe employees, or professional men; it looms large in t reports of medical officers and sanitary inspecto is a standing subject of assembled sociologist philanthropists, and religious congregation special meetings are called for its discussion property owners or by tenants; and the Press flooded with correspondence and illuminated wi leaders about it. Last week, the Manches Diocesan Conference adopted a resolution calli on all Churchmen in the diocese to interest the selves effectively in the improvement of housi conditions. Even the Government, harassed a overburdened as it is with a matter of mo immediate importance, has not been able to ke wholly free from the epidemic, as Mr. Walter Lon enthusiastic utterances bear witness.

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Every type of mind, from the mean to t magnificent, seems to be concentrated on t problem. We are to meet the emergency w wooden sheds or with mud huts, on rentals nic adjusted to starvation wages; or the workers a to expatiate in garden suburbs, waxing in efficie and in earning capacity until they are hones worth double the present rate of wages. The Son Toil, enjoying his due share of the advantages of t newest labour-saving machinery and sup organisation, is to recline in a hammock whence may watch the Granddaughters of Toil performi in a Neo-Grec costume, graceful Old English dan or "organised games," "all in a garden gree It is superfluous to say that the former school thought is merely contemptible. If the other a little over-sanguine, and rather too confident in estimate of the relations between cause and effe still there can be no doubt that it is steering for haven where we would be, though one would like see stronger evidence of consciousness of the roc shoals, and quicksands that threaten wreckage

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Health and wealth, beauty and happiness, are ensue on better housing. But it is significant t we no longer laugh, though we may sm indulgently, at the vivid dreams of housing a town-planning enthusiasts. As a writer in "Nation" said in reviewing Professor Patr

;eddes's "Cities in Evolution: An Introduction to ıe Town-planning Movement and to the Study of ivics," "Even at this time, when the energies of ıe Western world seem to be devoted to destruction ıd the devising of new means of destruction is well that a few can keep alive the constructive ıagination which, we hope, we shall some day use. ıt the construction, or reconstruction, which may llow upon the War must be based upon established ct and normal life, not upon legal systems and eaties. Make men happier, and they will be less ıger for such desructive adventure as war; give em greater freedom and relief from the deadly onotony of the industrial town and they will not adily believe in the militarists. The regeneration ; Germany, as of England, must come from the interpretation of city life; and in this we cannot er-estimate the effect of surroundings." This is rely too large a claim, but it is nevertheless based ıon a very delightful hypothesis, having much of ıth at the root of it. These enthusiasts are not erely to be tolerated, but to be welcomed, for they ercise a most valuable function in broadening and orifying an horizon which is in more danger of ntraction and drabness. And Professor Geddes ı always stimulating, even when his visions seem ast likely to materialise.

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Such fascinating theories are not without practical lue or motive force; but hard facts, unimaginatively tbulated, are more immediately dynamic. Dr. Harold Kerr, medical officer of health for Newcastle, ates, in his annual report, that during the year hich it covers "the infantile mortality rate was quivalent to 133 deaths of infants under one year d age per 1,000 births. During the eight years, 108-15, the average infantile mortality for the city vas 127 deaths per 1,000 births, and for the babies nder observation 118. Of the latter, the single-om mortality averaged 145, the two-room 119, and te three-room 10." He adds, "Surely facts like ese point their own moral!" It is an inadequate mment. One must guard against the hasty ference that the difference in the rates of mortality solely due to the difference in the number of rooms ccupied. Due allowance should be made for the rative degrees of poverty and ignorance of the e, two, and three-roomers, this classification being t a great extent a sure mark of relative ability (or bility) to struggle against adversity, including lease. Generally speaking, it is those of the west vitality, and those of the lowest type of telligence, who sink to the one-room level. Being themselves weaklings they produce sickly offspring; and only too certainly the evil is perpetuated and tensified by the horrors of one-room existence, hich it is by no means the present intention to idone, our only object in calling attention to these tors of degeneration being avoidance of the perils an overstated claim for housing.

* * * *

Why are English houses cheaper than Scottish? s question has come up in the course of a wspaper correspondence on Glasgow housing, d an answer to it was immediately forth-ming, but is more prompt than convincing. It is, we are informed by a Scottish builder, because ottish houses are so much better in quality. "You uld be laughed at," he writes, "if you put the glish houses before a Scottish Dean of Guild. ck houses have always been abhorred in Scotland, d why they are not put up is because in the feu rters on all good estates they are absolutely bidden." This extraordinary prejudice against ckwork is explicable on the supposition that very fe brickwork that is up to the English standard seen in Scotland, where stone is so plentiful as to give the brickfields but little chance. It is easy to understand how prejudice would arise where most of the brickwork is of the rough kind destined to be faced with ashlar. But while there is nothing that looks much meaner than bad brickwork, there is nothing that is more respectable than that which is good. In the ancient churches of Italy, and in old buildings, clerical and lay, in the south of France, brickwork receives a patent of nobility; as, indeed, it does also in fine old Tudor and Georgian houses in England, as well as in the rich work of George Devey, Eden Nesfield, and Norman Shaw, who rescued the craft of the brick-maker and of the bricklayer from the parlous state into which it had fallen during the rage for stucco. If brickwork will help to solve the very pressing housing problem in Scottish cities, the prejudice against it will speedily die down. Bricks "breathe" more freely than stone, and are thereby a healthier as well as a cheaper building material. Also brick "ages" much better than stone; this expression applying with almost as much force to durability as to appearance. Well-burnt bricks do not flake and crumble so readily—are not subject to any of the many "diseases" that attack natural stone, have better fire-resisting properties, and, from the sooti-ness of cities that disfigures the face of stone, bricks snatch a kind of grace in their mellowing.

* * * *

It would seem to be a cautious habit of the Scots to defy the proverb by looking a gift horse in the mouth. Glasgow has been offered, by "a generous donor," a fine large public clock, and shows very little eagerness to accept it. At first the clock was intended for the Royal Infirmary, where its refusal was softened by the suggestion that perhaps the University would like to have it. Whether the University would or would not, its pundits are trying to find out by hanging a dummy dial on the tower to see how it would look. Several citizens seek to influence the decision by writing letters to the papers. As far as we have been able to keep touch with this correspondence, all the writers are on the negative side of the argument—they have all "stinted and said nay." One has averred, tritely yet obscurely, that it would be "a blot on the land-scape," another speaks of "an unhappy project," a third calls on his fellow-citizens to "rise up and condemn the clock." Another thinks it too utterly "surprising to find any 'ifs' or arguments about such a terrible display of commonplace taste and eyesore." A correspondent who weakened on the opposition by the grudging admission that a public clock might assist private economy by restricting the purchase or repair of watches was refuted by the reminder that Glasgow has already two public clocks at least. His casual exercise of the Scotsman's habit of looking all round a subject goes for naught on this occasion; but the practice is vindicated by the gentleman who significantly observes that the clock could only be seen from west, south, and east. What is the matter with the north? All this palaver must give the generous donor furiously to think; but while he has our sympathy, we cannot help envying Scotland its sturdy outspokenness in such matters. In England, rather than run the slightest risk of discouraging generosity, we would, it is well known, consent with alacrity to disfigure the finest building that architect ever devised. The only occasion of Southrons rejecting a gift is when it happens to be indisputably a work of art; in which rare instance they would scorn to give it house-room, even though its upkeep would cost nothing. A clock, of course, must be kept going at some slight expense—a fact that cannot have escaped the attention of the canny Glaswegians, though on this practical point they are discreetly dumb.

HERE AND THERE.

"UBIQUE'S 'Here and There' always provides provocative and entertaining reading, and never more provocative than when he is writing on the Arts and Crafts. I cannot remember to have read in his notes in past numbers of your journal any reference to the Arts and Crafts which indicated the least appreciation of their work; but in your issue for October 18 he has found himself reluctantly compelled to pay tribute to the talent which is displayed at their exhibition at the Royal Academy. He tells us, somewhat grudgingly, if one may say so, in the midst of much hostile criticism, that the galleries display 'a liveliness that is quite exhilarating,' that the furniture is 'splendidly finished,' that the inlaying, embroidery, colouring, and metal chasing are all 'unexceptionable,' that 'the best materials are used and the workmanship is of superb quality,' that the little rooms express 'very pleasing decorative schemes tastefully carried out,' and that the model nursery with its 'most delightful dolls and other toys' had an immense fascination for him. Reading these inspiring quotations together with the rest of what 'Ubique' had to say, one is almost driven to the pleasing conclusion that he went to scoff and remained to pray lest he be converted to the ideas of this Society. The fear of such a catastrophe haunts him; his banter and ridicule, his almost vehement denial of any agreement with their principles, and his rather malicious jibes at the 'Arts-and-Crafts-Ghiberti style,' are but the outward expression of an inward fear lest he should forsake his faith in the traditions which produced the Old Sheffield Plate candlestick, the beauty of graceful form, and all the delights which appertain to a Sheraton sideboard decorated with Old Sheffield Plate. Neither 'Ubique,' as hostile critic, nor myself, as devout disciple, would have believed that that old back number the Arts and Crafts movement, thought to be decently interred and forgotten, would have renewed its vitality in the midst of a great War and a misnamed neo-Greek revival in architecture. 'Ubique' tells us that the Arts and Crafts enthusiasts seem to him to be intent on cutting themselves off from tradition. He is mistaken; it's an impossibility even for the Arts and Crafts Society, for we have none. 'The sense of a consecutive tradition has so completely faded out of English art,' says Mr. Blomfield, 'that it has become difficult for us to realise its meaning.' Instead of attempting the impossible the Society has always worked to forge anew our old English traditions in the arts and crafts. G. LL. MORRIS."

* * * *

Thus the letter to the Editor, and seeing it in front of me, with my own words fast between quotation marks, I feel almost in the position of the accused who, having said what he has said, finds it brought up in evidence against him. Mr. Morris's impeachment humbles me, but let me assure him that, when walking through the Academy galleries, I was in no way haunted by the fear of an Arts and Crafts cataclysm that should engulf all my former beliefs. I was, in fact, but trying to see the other fellow's point of view, and that generally leads to trouble. Had I gone through the galleries as one who was so sure of himself that nothing he saw would influence him to alter his fixed opinions or prejudices, all would have been well, but instead I tried to be a judicial critic, and thereby have drawn down upon me the wrath of many, for whom Mr. Morris speaks most urbanely. It is perfectly true that we have long since lost all consecutive tradition in craftsmanship, unless, perhaps, we be wheelwrights or basket-makers. What I had in mind, however, was historical precedent in architecture and craftsmanship. This was intact down to the end of the eighteenth century. Then came the nineteenth, and its Gothic enthusiasts, who upset everything and spent their energies in running into a cul-de-sac. And after they had finished there came upon the scene the blood-and-ginger group, with a creed that wholly neglected the existence of the real world around them, that proclaimed the machine to be irredeemably vicious, and proceeded to constitute a world of their own, in which nothing was real—not even themselves. The Arts and Crafts Society has suffered from being indoctrinated with this creed, and really it is the extremists who have driven people to the collection of old furniture, old plate, and the rest. Admittedly it is rather pawnshoppy, this collecting of old things, but do not let us forget that it signifies also an appreciation of excellence that is not purchasable among the works of to-day. The craftsman should himself make an equal acknowledgment, and should, I think, start afresh from the historical basis which continued down to a century ago. And especially it is necessary to make things that shall be within the reach of the average purchaser. It is in this connection that the Design and Industries Association has its opportunity, for this Association should prove a golden bridge connecting the modern craftsman with the workaday world. The future of craftsmanship, I am sure, does not lie with expensive works for the wealthy (such as the small country house bedroom in the Arts and Crafts Exhibition, which item by item would cost more than £70 without the bedstead which is its chief feature), but rather with well-made articles of pleasant form which business firms can sell in the ordinary way to the general public.

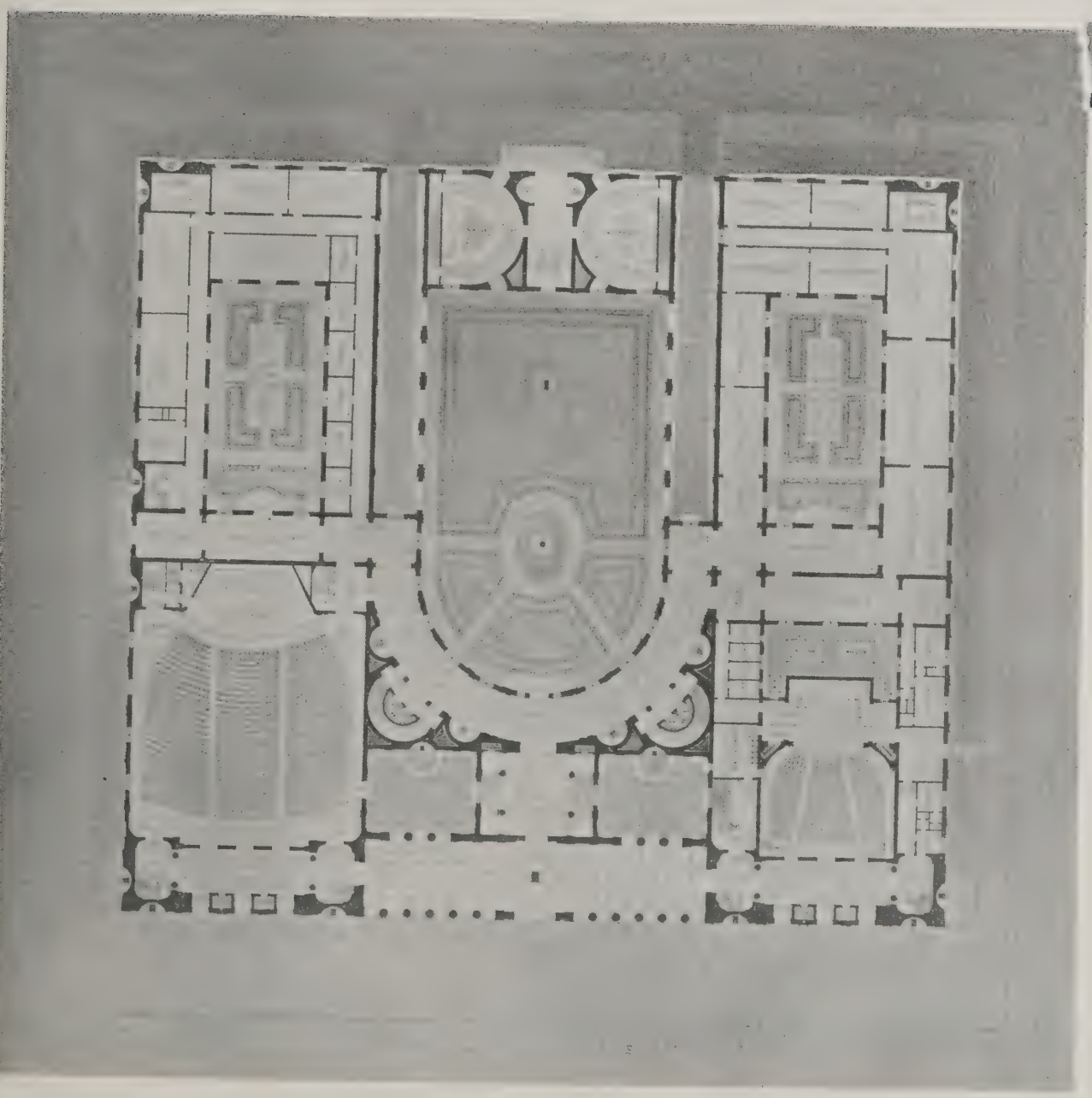
UBIQUE.

THE PLATES.

Newark Memorial Building Competition.

ARCHITECTURAL competitions being non-existent in this country under present conditions of War, the greater interest therefore attaches to competitions elsewhere, and on this account we take the earliest opportunity of showing some of the designs submitted in the important recent competition for a building to be erected at Newark, N.J., in celebration of the two hundred and fiftieth anniversary of the founding of this American city. No less a sum than £300,000 has been raised for this purpose by taxation. The competition was conducted in two stages, the first, a preliminary, competition to select five local architects, and the second, or final, to which were also invited seven architects practising outside Newark. A fee of £10 was paid to each competitor in the preliminary competition and £200 to each in the final, excepting the winner, who was to be given the carrying out of the building to his design. The following competitors were finally selected: Bigelow and Tuttle; John H. and Wilson C. Ely and Helmle and Corbett (associated); Jordan Green and Albert R. Ross (associated); Guilbert and Betelle and Donn Barber (associated); Hughes and Back and Dennison, Hirons and Hood (associated); B. Hurd and F. S. and S. E. Sutton; Henry J. King and John F. King (associated); W. E. and D. J. Lehnert and J. H. Freedlander (associated); E. A. McMurry and W. Pell Pulis, John T. Simpson and Clarence W. Brazer (associated); Carrère and Hastings; Cass Gilbert; McKim, Mead and White; H. Van Buren Magonigle; John Russell Pope, George B. Post and Sons; and Tracy and Swartwout. The problem presented two factors—the memorial building and future extension of it. The memorial building was required to contain an auditorium,



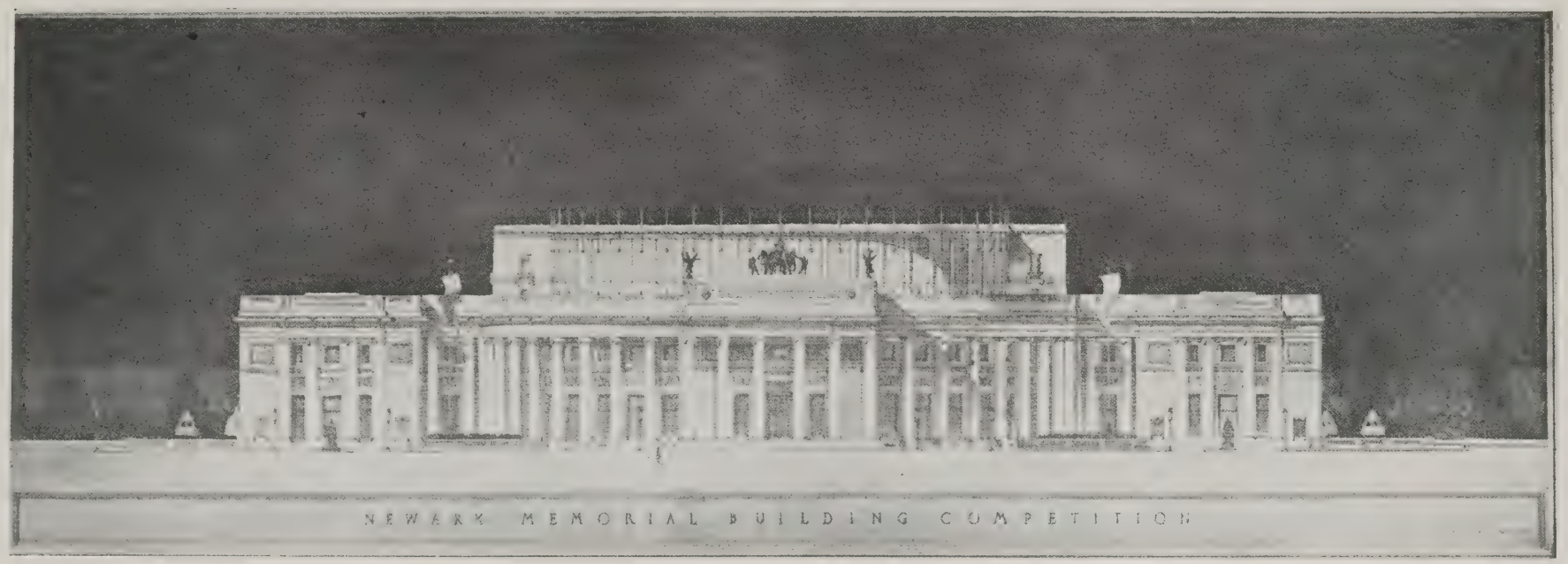


MODERN AMERICAN ARCHITECTURE (SERIES II.). XVIII.—COMPETITION FOR MEMORIAL BUILDING. NEWARK, N.J.: SELECTED DESIGN.

McKIM, MEAD AND WHITE, ARCHITECTS.



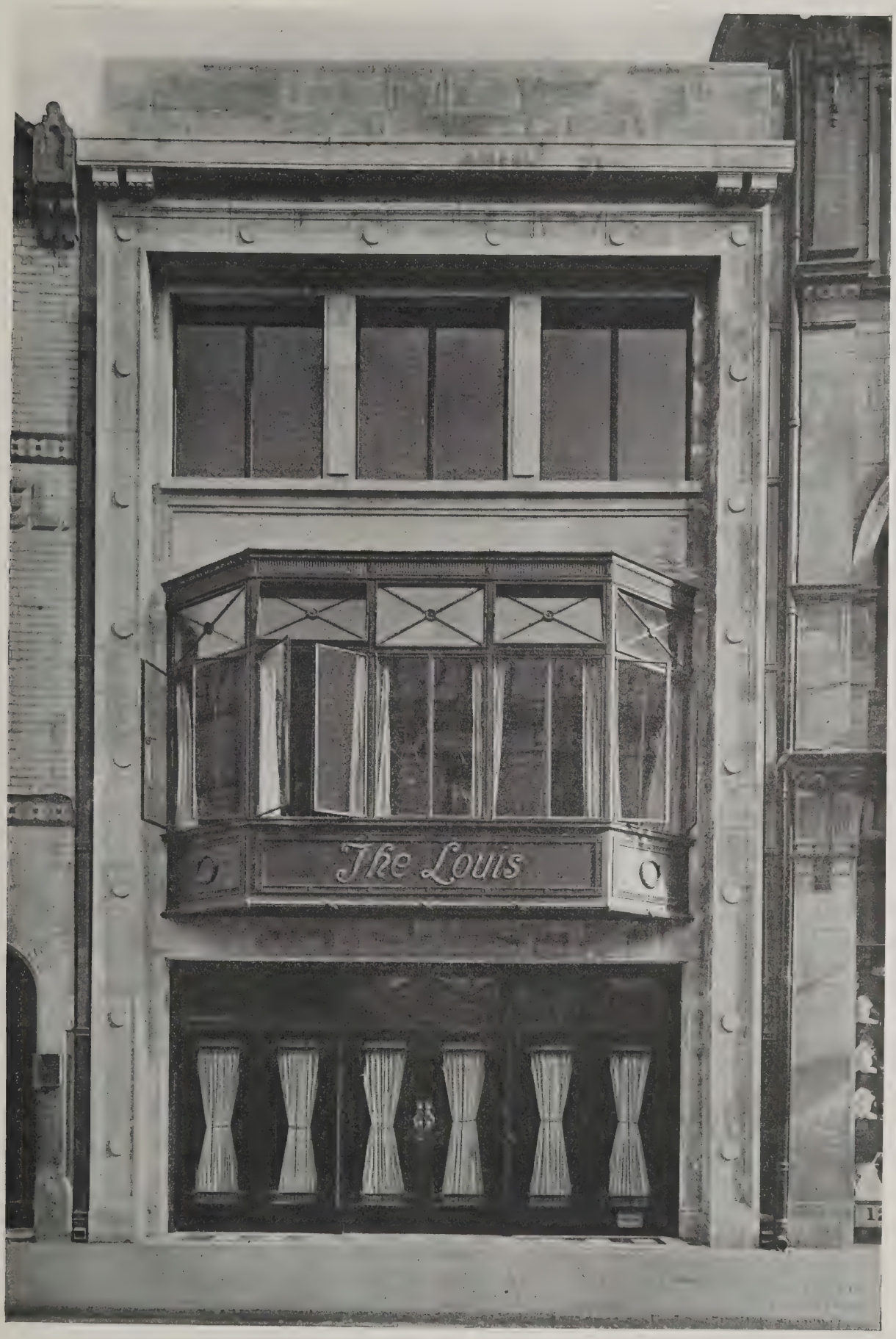
Design by John Russell Pope.



Design by Cass Gilbert.

MODERN AMERICAN ARCHITECTURE (SERIES II.). XIX.—COMPETITION FOR MEMORIAL BUILDING, NEWARK, N.J.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



CURRENT ARCHITECTURE (SERIES IV.). IV.—LOUIS CAFÉ, DUKE STREET, CARDIFF.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.



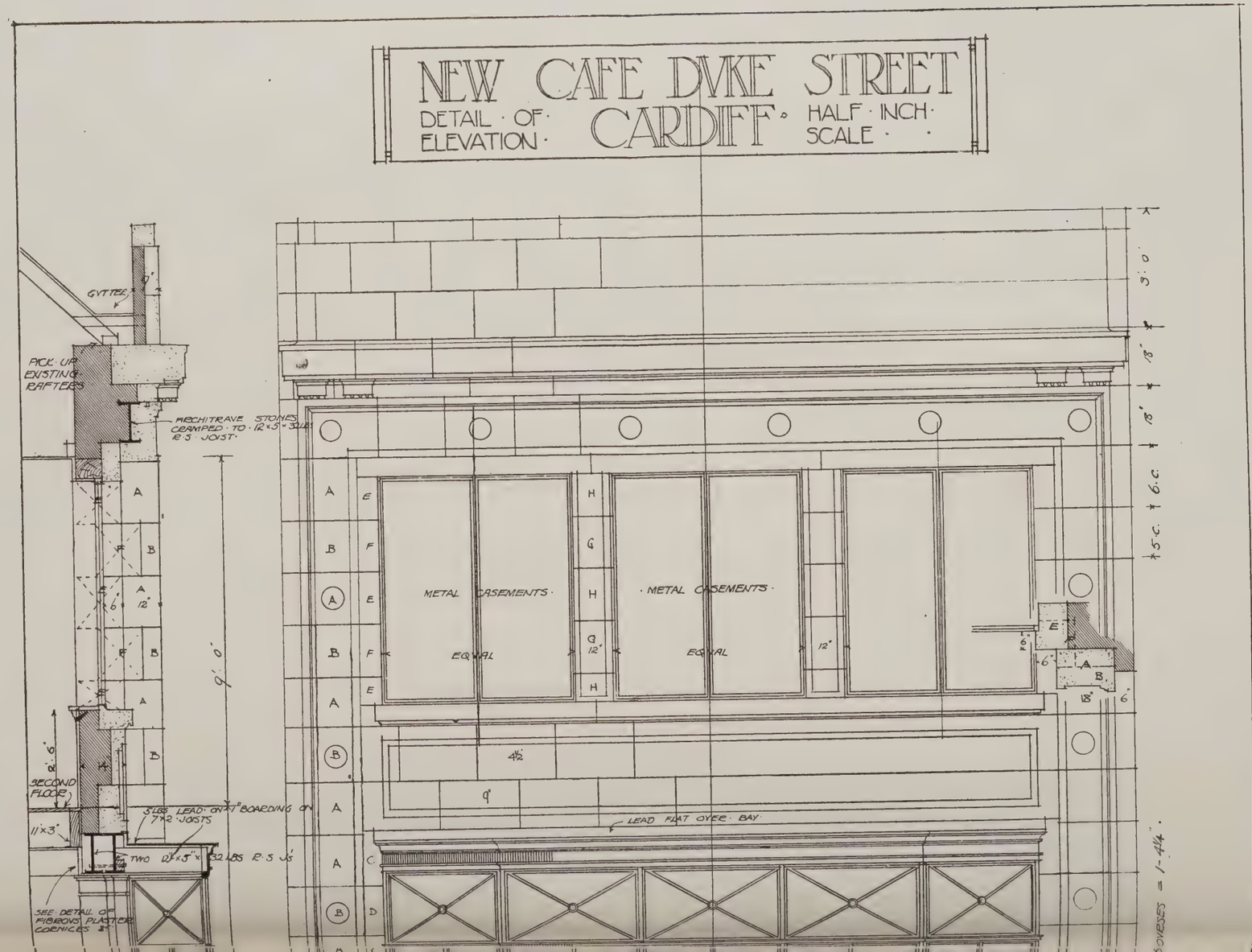
First Floor.



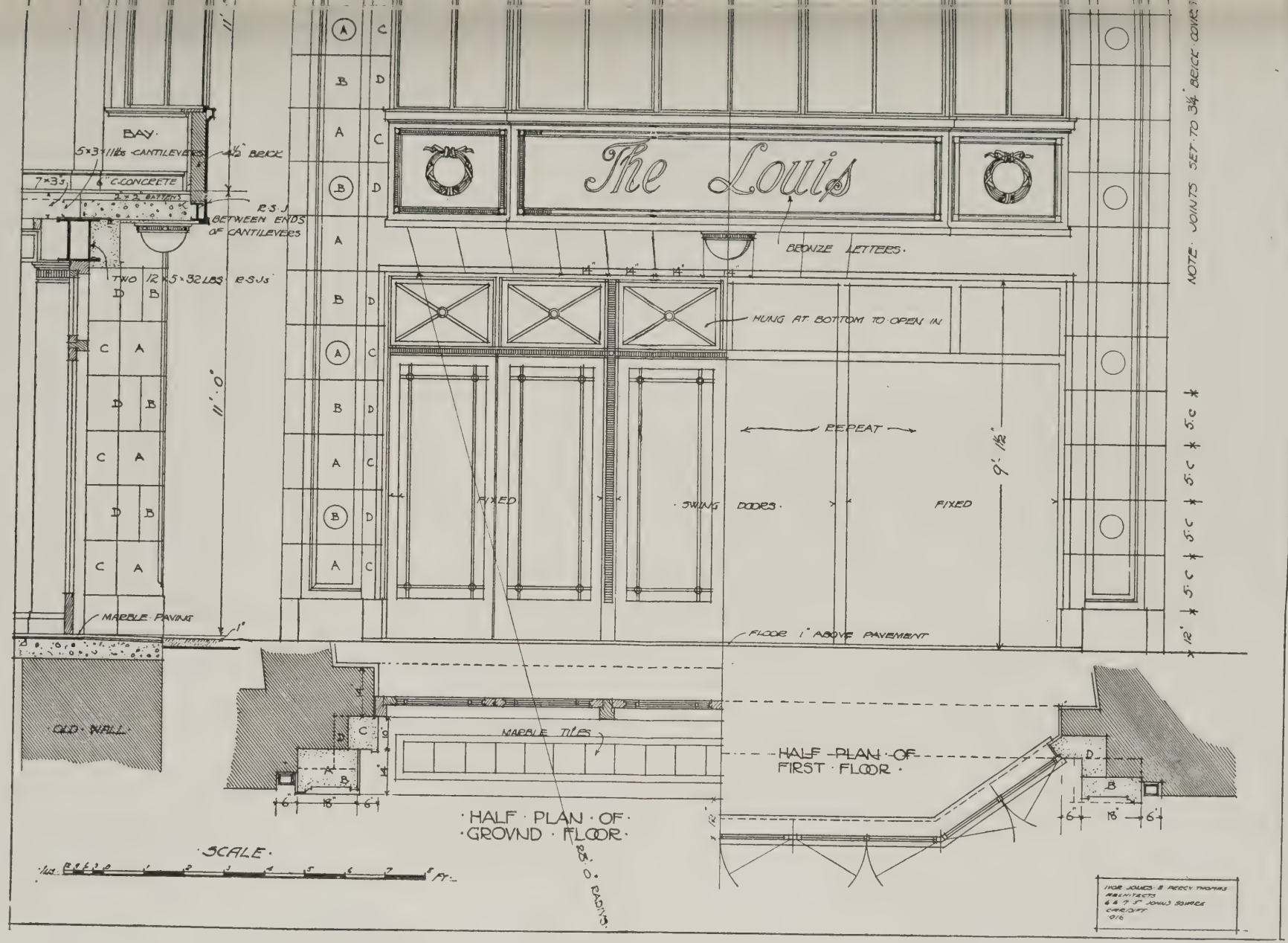
Ground Floor.

CURRENT ARCHITECTURE (SERIES IV.). V.—LOUIS CAFÉ, DUKE STREET, CARDIFF.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.



Element to "The Architects' and Builders' Journal," Wednesday, November 1, 1916.



ARCHITECTS' WORKING DRAWINGS (SERIES II.). XXXII.—LOUIS CAFÉ, DUKE STREET, CARDIFF.

IVOR JONES AND PERCY THOMAS, ARCHITECTS.

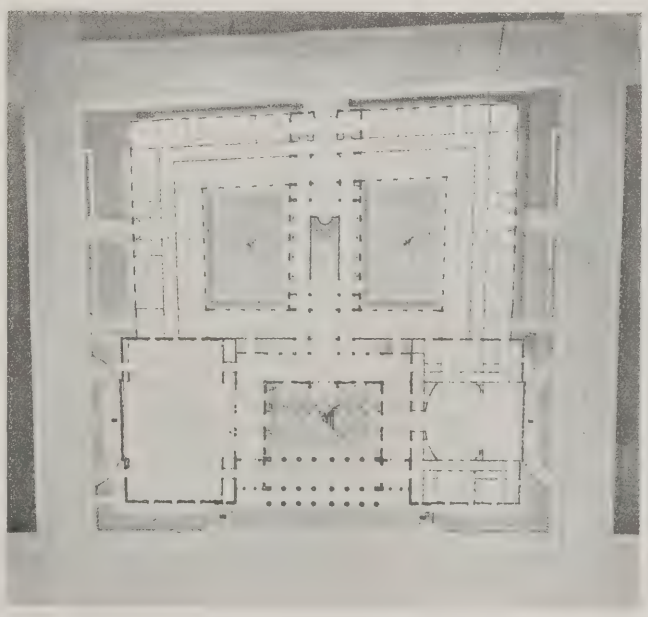
heatre, and exhibition and other rooms for eneral public service; also galleries and ffices suitable for the present collection and ork of the Newark Museum Association. It as provided that the extension should be so esigned as not to subordinate or impair the effect of he memorial building proper, which should appear s a completed composition if the extension were not uilt. The space requirements were as follows: otal volume not to exceed 2,500,000 cubic feet; eight of floors, exclusive of mezzanines, to be not ss than 14 ft. for the principal storey and not less an 12 ft. for the remaining storeys; height of uditorium not less than 35 ft., height of theatre not ss than 23 ft.; auditorium, 15,000 sq. ft.; audience om, 2,500 sq. ft.; minor rooms, 1,500 sq. ft.; useum galleries, 40,000 sq. ft.; limit of height of xtension six storeys, and total area not less than 00,000 sq. ft. The jury for the preliminary competition was composed of Messrs. Francis H. imball, John V. Van Pelt, and John Wynkoop, and at for the final competition of Messrs. Henry lornbostel, Henry Bacon, and Louis Ayres. rofessor Warren Powers Laird, of the University f Pennsylvania, was the professional adviser to the ommission. The first prize was awarded to the esign of Messrs. McKim, Mead and White, of New ork. The front elevation and ground floor plan re reproduced on our plate. The elevation exhibits at purity of design and sense of scale which have lways distinguished the work of McKim, Mead and hite. The plan is arranged with a galleried nclosure in the centre, the large auditorium being n the left, at the front, with the school portion ehind it, and the theatre on the right, with the useum portion behind it. We also reproduce the vo designs by Mr. John Russell Pope and Mr. Cass ilbert, the latter, strongly reminiscent of Roman mposition, being especially interesting. The round floor plans of these two designs are shown elow. Mr. Pope has arranged his with a memorial ourt at the front, flanked to right and left by the rge auditorium and the theatre, while at the rear re two courts on either side of the central axis with alleries around, the school and museum rooms being laced on the outer sides. In Mr. Cass Gilbert's plan he auditorium takes a semi-circular shape and xpresses itself on the front. A large oblong court is put behind it, in the centre of the building, and the lecture halls, galleries, etc., are arranged around this. In looking at these designs one is impressed with the high standard of classical design which American architects are able to achieve. A similar competition in this country would not produce designs like these.

Louis Café, Cardiff.

For this building a limited competition was held, in which Messrs. Ivor Jones and Percy Thomas were the successful architects. The plans explain themselves. The construction is generally of brick for walls with Portland stone for the front elevation. The basement floor is of concrete floated with granolithic and covered with cork lino, glued down; floors of all serveries and toilets, and part of kitchen, of concrete between steel joists finished with terrazzo; floor of vestibule finished with large black and white marble tiles on concrete. The steelwork of the building was carried out by Messrs. Archibald D. Dawnay and Sons, of Cardiff and London. The whole of the timber work throughout the three café floors, including screens, doors, staircases, etc., is of polished mahogany carried out by the general contractor (Mr. W. T. Morgan, of Cardiff) from the architects' details. The roofs are covered by "Fibrocement" slates, supplied and laid by the British Fibrocement Works, of Erith. The whole of the plaster decorations, electric light fittings, metal staircase handrailing, steel bay window to first floor and oak panelling to basement café were executed by Messrs. H. H. Martyn and Co., Ltd., of Cheltenham. Owing to the fact that the only access to the building is from the front the question of heating the building was a serious matter. Eventually it was decided to adopt a low-pressure hot water system (with radiators fixed at various points on each floor) by means of three gas boilers fixed in the heating chamber. The foul air is extracted at ceiling level on each floor and conveyed by trunks to the upcast flue with electrically driven fan at the top. Messrs. G. N. Haden and Sons, of Trowbridge, carried out the heating and ventilation. The cooking apparatus, domestic water heaters, etc., are all heated by gas. They were all supplied and fixed by the Cardiff Gas-light and Coke Co. and comprise a very up-to-date equipment, embodying all the latest improvements.

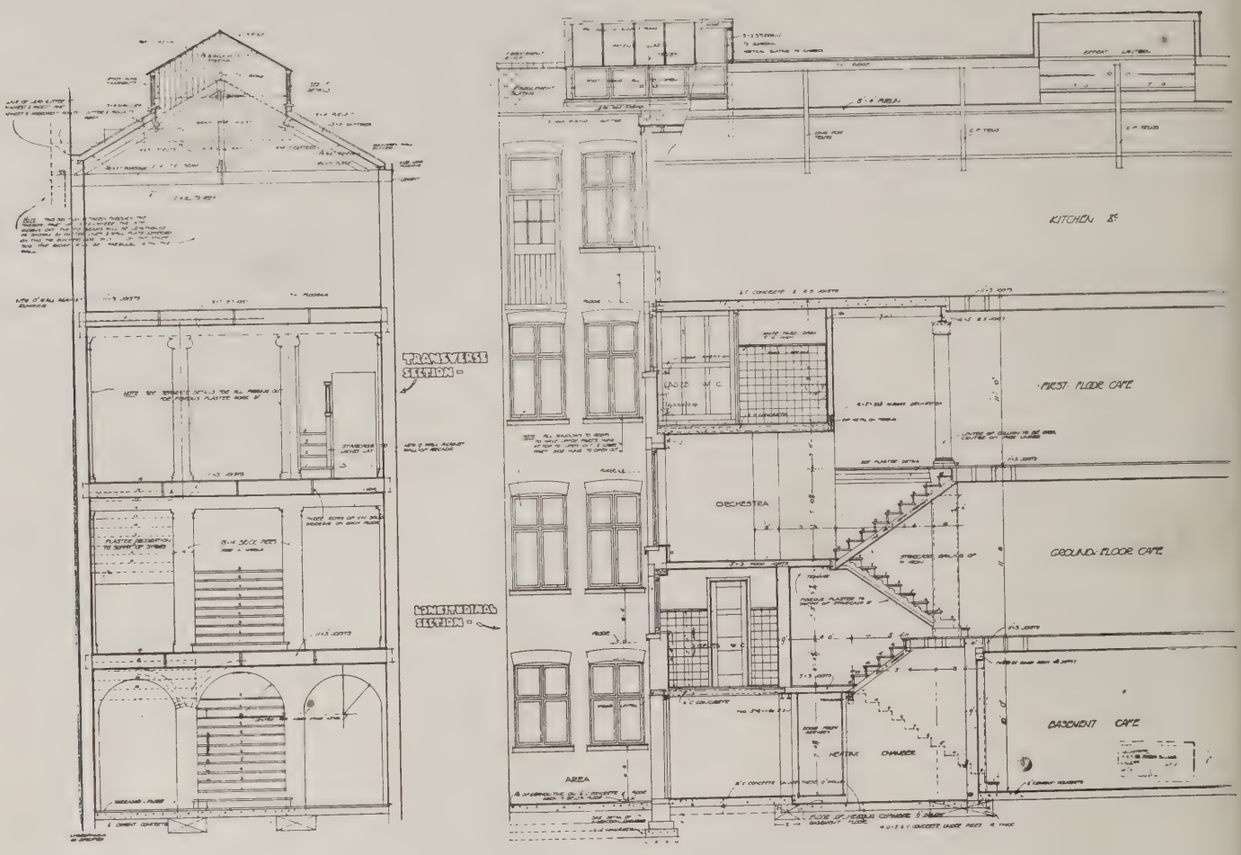


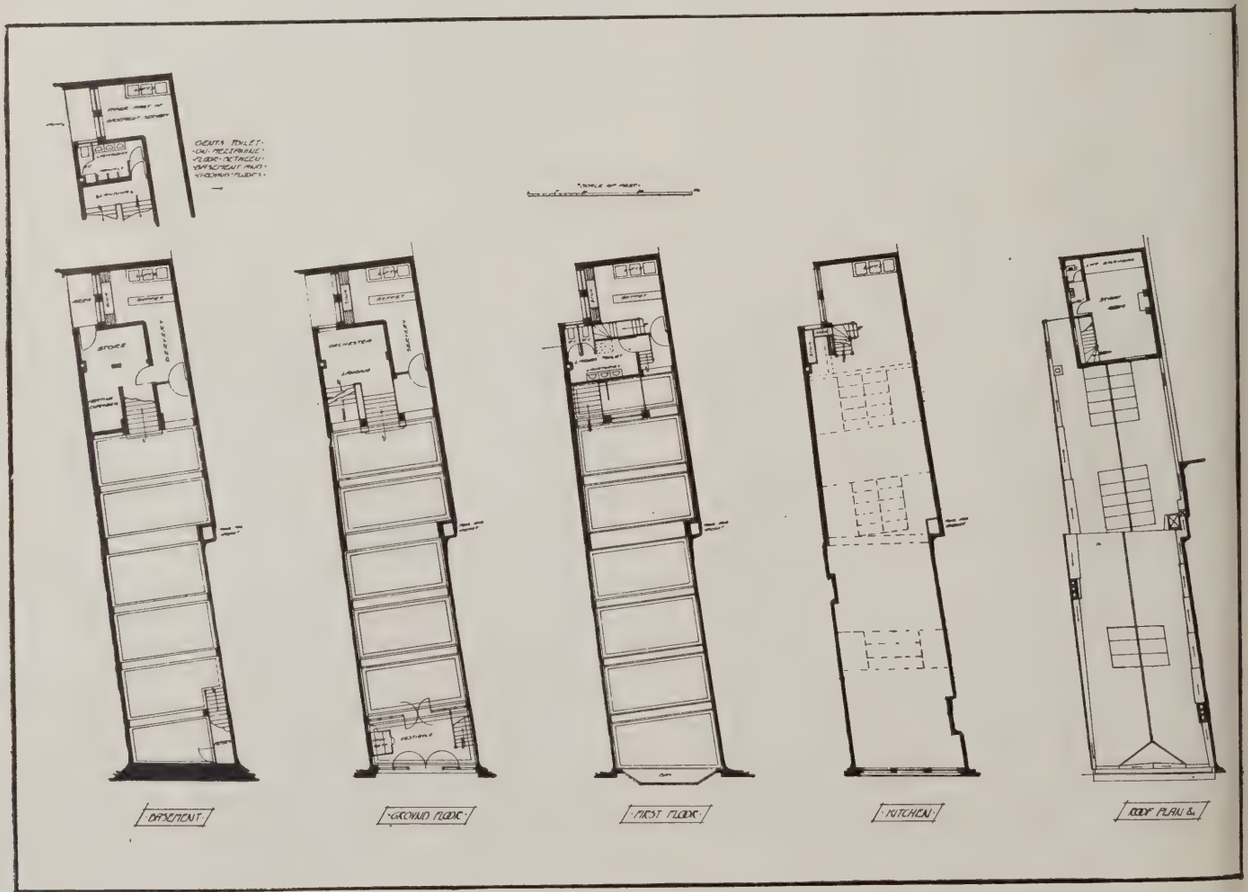
Cass Gilbert, Architect.



John Russell Pope, Architect.

MEMORIAL BUILDING, NEWARK, N.J.: GROUND-FLOOR PLANS OF COMPETITIVE DESIGNS.





LOUIS CAFÉ, DUKE STREET, CARDIFF. IVOR JONES AND PERCY THOMAS, ARCHITECTS.

THE CONSTRUCTION AND STONE-CUTTING OF INTERSECTING OR GROINED VAULTS.

[SPECIALLY CONTRIBUTED BY JAMES S. BOYD.]

(Concluded from page 191, No. 1138.)

Stone-Cutting.

Stone No. 1.—The shape of the rough block required for the working of this stone is nearly a square in plan; its length and breadth being equal to that of the bed-mould, and its height to that of the section-mould. Begin by working the bottom bed, which is the largest plane surface, and on it carefully inscribe the bed-mould. At right angles to this bed, and working to the exact overall length of the bed-mould, cut two vertical faces—the surfaces of which being scabbled—and on both faces scribe the section-mould No. 1, taken from section AB in Fig. 1. (See Fig. 4.) At the level of the lower arris of each of the radiating bed joints run a broad draft through from one face to the other, and on this draft scribe the arris line, which is shown dotted in Fig 4. Now work part of the top level bed to the exact height of the section-mould sufficient to contain the upper arrises of the four radiating bed joints. Scribe the arrises on this surface and cut the plane surfaces of the radiating bed joints. Working to the lines given by the section-mould, already scribed on the two vertical operation faces, cut two soffits as shown in Fig. 5. Then, with a wood templet cut to the curve of the arch soffit of the larger vault, sink drafts as shown, and working to those drafts cut the two remaining soffits. The width and projection of the arch-rib should now be inscribed, and the depth of the sinking of the vault intrados trammelled as shown. Finally, this intrados surface is neatly sunk and the four groins are accurately cut and sharply defined as in Fig. 6, which is a view of the finished springer.

Stone No. 2.—The dimensions of the block required for this stone can be ascertained from the bed-mould in plan (length 3 ft. 1 in., width 1 ft. 6 in.), and from the section-mould 2B (height 1 ft. 5 in.) as shown in section GH. It will be noticed that the section-mould 2B of the larger vault is greater in height than the section-mould No. 2 of the smaller vaults. Begin with the bottom bed, which is worked as a surface of operation, but observe that the whole of this surface—with the exception of an arris—will ultimately be removed; therefore, the surface should merely be roughly scabbled, but where the arris occurs a clean and accurate draft should be cut. Scribe the bed-mould, and at right angles to the bed, cut the vertical joint shown in Fig. 7, on which inscribe the section-mould No. 2. This mould must be carefully applied at its correct height above the bottom bed, and this may be done by gauging the stone to the exact height already stated. At right angles to the bottom bed, and to the exact length of the bed-mould, scabble the two end faces of the stone, cutting clean drafts to contain the soffit arris lines of the smaller vaults, and scribing the section-mould No. 2B of the larger vault. Run drafts on the top bed of the stone to contain the arrises of the upper radiating bed joints, and a draft at X, Fig. 7, to contain the soffit arris line of the upper radiating bed joint of the larger vault. After scribing the arris lines on these drafts, the upper radiating bed joints and the top level bed may be cut as shown in Fig. 8. Knock off the surplus stone at the soffit of the large vault, and cut in a draft to the curve scribed on each end of the stone. The surface containing the soffit of the arch rib of this vault can now be worked by running straight drafts parallel to the long arrises, and the arch rib soffits of the smaller vaults may be similarly formed by cutting accurate drafts at right angles to the vertical joint and working to the curves already scribed thereon (see Fig. 9). After scribing the width of the arch ribs on the surfaces just formed and on the upper radiating bed joints, proceed to work the lower radiating bed joints (see Fig. 9). On the bottom bed, cut in arris drafts as indicated in the sketch, and rough out the small level bed shown. Now cut this small bed accurately to the size given on the bed-mould, and to the correct depth, then rough out the remainder of the superfluous stone and work the three radiating bed joints, making neat mitres where the beds intersect. The depth of the sinking of the vault soffit is now trammelled, and the soffit surface of the three vaults neatly cut so as to obtain sharp arrises at the two groins. Fig. 10 is a sketch of the finished stone.

Stone No. 4L.—Begin by working an operation bed on the underside of the stone, and on this inscribe the bed-mould

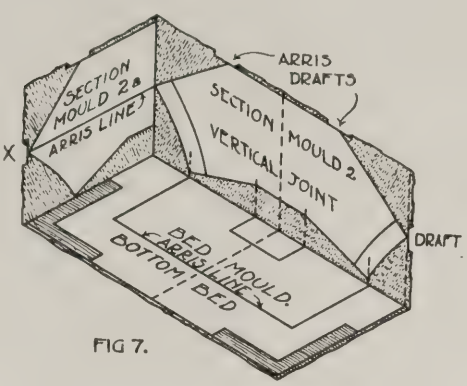


FIG 7.

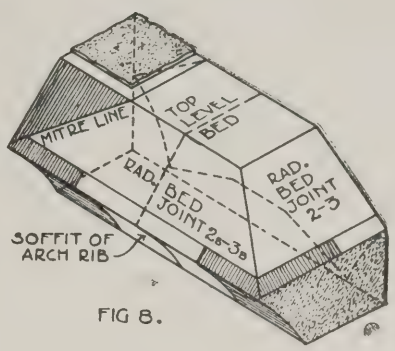


FIG 8.

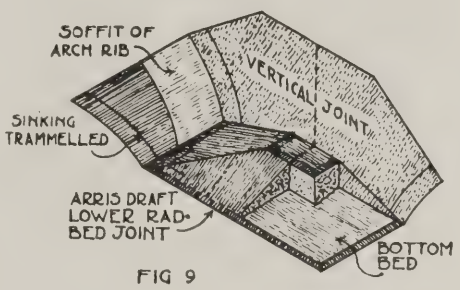


FIG 9

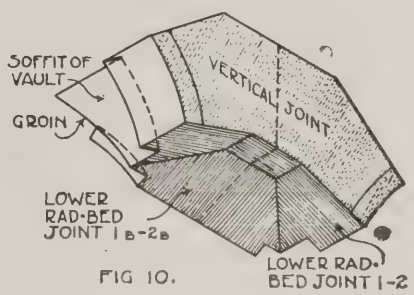


FIG 10.

STONE No. 2.

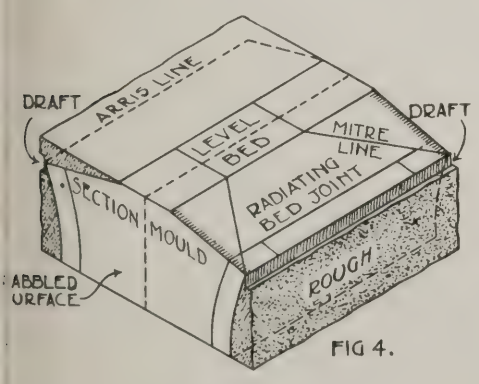


FIG 4.

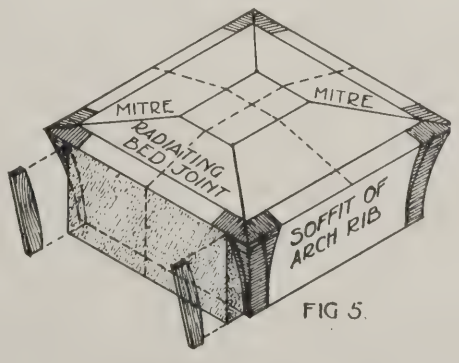


FIG 5.

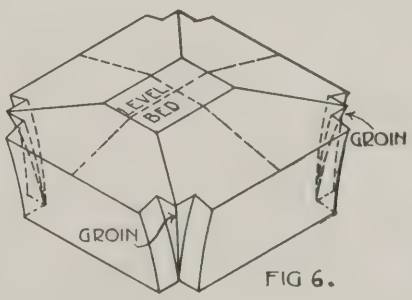


FIG 6.

STONE No. 1.

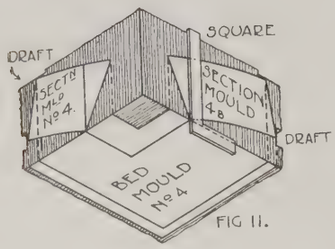


FIG 11.

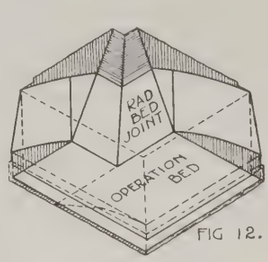


FIG 12.

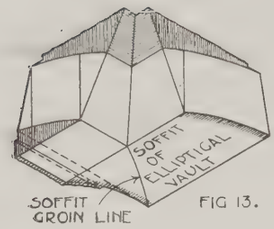


FIG 13.

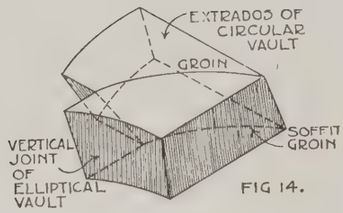


FIG 14.

STONE No. 4L.

as shown in Fig. 11. Unnecessary labour should not be thrown away on this bed, as only an arris will remain when the stone is completed. At right angles to this bed, and to the lines given by the bed-mould, cut the two vertical joints, on which inscribe the respective section-moulds. Accuracy in the application of these section moulds will be obtained if the vertical lines, already scribed on the zinc moulds, be adjusted to coincide with the steel square applied from the bottom bed, as shown in the figure. Now cut broad drafts to contain the arrises of the upper radiating bed joints; on these drafts draw the arris lines, and complete the cutting of both the upper and lower radiating beds as in Fig. 12. The soffits can now be worked, and this may be done by first scribing the soffit curve from a section-mould on the surface opposite to a vertical joint as shown by a dotted curve in the last figure. Rough out the surplus stone and cut in chisel drafts to the soffit curves as indicated in Fig. 13, which shows the soffit of the elliptical vault completed. To form the soffit of the smaller vault, draw the groin line on the elliptical surface by means of a flexible straight-edge, rough out the superfluous stone, and cut drafts to the soffit curve already scribed on the vertical joint, and to the groin line drawn on the elliptical surface. This soffit can now be cleaned through by running straight drafts parallel to the long arrises of the radiating beds, care being exercised to preserve a true and sharp groin arris. By working the extrados surface in the following manner the stone may now be completed. To the extrados curves remaining on the two vertical joints, run straight drafts at right angles to the latter and parallel to the long arrises of the bed joints. These drafts if carefully worked should form a neat external groin or mitre, as shown in the sketch of the finished stone (Fig. 14).

Keystone.—It is necessary for this stone to work an operation bed on which the bed-mould is inscribed (see Fig. 15). This may be done by running drafts out of winding round the edges of the rough block. Scabble the surface where required for the arrises of the soffits, the remainder of the bed being roughly dressed. After scribing the bed-mould, cut the four vertical joints square from the bottom bed and to the lines of the bed-mould. On these joints scribe the section-moulds, being careful to apply them with the vertical line at right angles to the bottom bed. Now cut the radiating bed joints and the extrados surface to the lines and curves scribed on the vertical joints. Lastly complete the soffits by first working the cylindrical surface of one of the vaults right through to drafts at both ends, as shown in Fig. 16. Then, by means of a flexible straight-edge, draw the groin lines on the cylindrical surface just worked, after which the remaining surface may be completed.

[Some of the figures to which reference is made in this the concluding portion of Mr. Boyd's article will be found in the double-page plate included in last week's issue. As the plate is loose, it may be easily brought into juxtaposition with the text.]

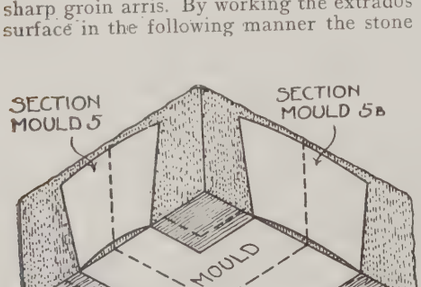


FIG 15.

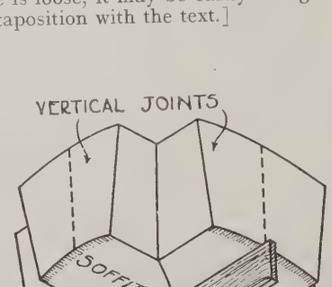


FIG 16.

KEYSTONE.

COST OF BUILDING AFTER THE WAR.

Among their after-the-war activities the Germans are discussing the prospect of increased rents. An architect and economist, Dr. Wagner, writes about it as follows: "The cost of building will be increased by about 20 per cent. as compared with the period before the war. Interest on first mortgages will rise to at least 5 per cent., and on second mortgages to 6 or 6½ per cent., while working expenses, rates and taxes, etc., will also go up considerably. Allowing for all these factors, the houseowner will expect to draw 8 or 8½ per cent. from his investment, from which it follows that the rents of newly erected dwellings will have to be put up by one-third if they are to be a business proposition. We must consequently expect a gross rise in the rentals of Berlin houses and flats of about Mk.165 millions, of which, however, only about Mk.40-50 millions will be justified by increased outlay."

The question naturally arises: What about London? A "Daily Graphic" representative submitted the above to Mr. Edwin Evans, of Lavender Hill, the well-known president of the Property Owners' Protection Association. "London is in exactly the same position," said Mr. Evans, when he had read the extract. "It is perfectly clear that we shall not be able to produce houses after the war at the old price. The cost of labour will not return to the old figure, and it will be many years before materials come down to the old level—perhaps they never will. We have no difficulties at the present time, thanks to the legislation by which landlords, mortgagees, and everyone else were ordered to 'stand as you are' for the period of the war and six months after. But the whole position must be reconsidered then, and possibly a further extension of time will have to be enacted.

"It is obvious that people who lend money will expect to get 6 or 7 per cent. for it after the war. The hardship will fall upon those who have lent their money at 4 or 5 per cent. It will seem to them unfair to be told that because they lent it their property they are not to have their mortgages released. Yet the moment the present restrictions are removed rents will be bound to go up from 10 to 30 per cent. in the case of the smaller classes of houses, in which event owners would be able to pay a better rate of interest. The question will thus arise, whether it won't be absolutely necessary for the Government to prolong the restrictive Act, both as regards rent and mortgages.

"In my own business alone we were producing in peace time some 1,000 to 1,200 houses a year. At the present moment there is not a house being built anywhere. Recently the Government have been asked to give a public grant of £20,000,000 for building after the war, and they have been asked to do this on uneconomic lines. In the past, private enterprise has produced 97½ per cent. of the working-class houses, and the moment the Government comes in and assist municipalities for State schemes private enterprise will cease and the onus of providing that accommodation will be thrown upon the State. Well, £20,000,000 would not cover a week's supply. The taxpayer would have to bear a heavy burden.

"What the Government ought to do is to encourage private enterprise in exactly the same way as they might be willing to encourage municipal enterprise."

AUSTRALIAN FEDERAL PARLIAMENT HOUSE.

The R.I.B.A. President has sent the following reply to the letter from the office of the High Commissioner published in our issue of October 4, p. 155. It will be remembered that the High Commissioner's letter quoted a cablegram in which the Commonwealth Government declined to postpone the competition for the Federal Parliament House at Canberra.

October 9, 1916.

The Official Secretary, High Commissioner's Offices, 72, Victoria-street, Westminster.

Sir,—The Royal Institute of British Architects begs to acknowledge the receipt of your communication of the 18th Sept. citing the cablegram received from the Commonwealth Government.

The Royal Institute fears that it did not make sufficiently clear the very serious objections which in its opinion exist against the resumption of the competition during the War. Owing to the fact that all the architects of Great Britain and the Allied Nations who are of military age, and large numbers also of the architects of Australia, Canada, and New Zealand, are now serving with the Forces, they would be shut out from any chance of competing. A competition in these circumstances would be practically confined to neutral countries, and would be in no sense international, as advertised in the original conditions.

The Royal Institute feels very strongly that if the competition is resumed now the architects of neutral countries would have a preponderating advantage over those of the Empire and its Allies, and no real opportunity would be given to Australian architects, the architects of the Dominions, or those of the Mother Country and the Allies, who are taking their part in the great War. Apart from the grave objection on patriotic grounds, the narrowing of the area would obviously greatly minimise the chances of securing the best result.

The Royal Institute feels that the serious objections to which it has ventured to call your attention far outweigh the one advantage of finding employment on this particular building immediately after the War

I am, Sir, your obedient Servant,
ERNEST NEWTON, President R.I.B.A.

Sir John Burnet has sent the following correspondence for publication:

Commonwealth of Australia, Department of Home Affairs, Melbourne, August 9, 1916.

Sir John J. Burnet, LLD., R.S.A.

Sir,—Resumption of this competition to select an architect for the Parliament House was announced by the Australian Government, August 2, 1916, and has been communicated to the one hundred and fourteen previously registered competitors and published generally.

The conditions are exactly as when first published June 30, 1914, per programme enclosed, except that enemy subjects will be ineligible, and that the date for receiving designs has been extended from March 31, 1915, to January 31, 1917, leaving the period for completion equal to that when postponed September 25, 1914.

I sincerely trust that nothing will prevent your honoring, in conjunction with the remaining selected architects from friendly countries, the Government's reconsideration of a previous letter dated November 16, 1914, and now accept as a most urgent requirement its official renewal of your appointment dated June 25, 1914, to act as adjudicator. The reappointment is being forwarded, and comprehends the same arrangements as previously entered upon, and the date of your meeting at London should accordingly be about March next.

I feel keenly that the Commonwealth's duty towards those of the profession who entered upon the work of the competition is to keep faith in every respect possible, and that, of course, implies retaining the highest standard of adjudication upon which they were induced to enter and, in many cases, to do a great amount of work.

Professor Wagner being unavailable, his successor has, in accordance with Condition 2.26, been nominated in the person of the Russian, Eliol Saarinen, of whose international standing naturally you do not need to be informed, and of whom you may recall among his score of competitive honours the second prize for the Australian Federal Capital City.

Yours truly,
(Sgd.) WALTER B. GRIFFIN,
Federal Capital Director of Design and Construction.

Commonwealth of Australia,
Department of Home Affairs, Melbourne.
August 15, 1916.

Sir John J. Burnet, LL.D., R.S.A.

Dear Sir,—Following my cablegram today, acquainting you of the decision of the Commonwealth Government to resume the Federal Parliament House Architectural Competition, I desire to reaffirm your appointment as adjudicator in accordance with Mr. Kelly's letter to you of June 25, 1914 (copy herewith).

I find from the papers left by my predecessor in office that in connection with the postponement of the competition that gentleman took the step of cancelling the arrangement with you. Such action is to be regretted, and the letter addressed to you in this connection is withdrawn. This Government is fully appreciative of the prestige which your support has already given to the competition and of the advantages to be derived from your continued association with the project.

With regard to the meeting of the adjudicators in London, it is now proposed that this should take place in March, 1917.

I may add that, it being necessary to appoint a new adjudicator in place of Professor Otto Wagner, the nomination made by the Federal Capital Director of Designs and Construction will be communicated to you as early as practicable.—Yours faithfully,

(Sgd.) KING O'MALLEY,
Minister for Home Affairs.

October 6, 1916.

Walter B. Griffin, Esq., Federal Capital Director of Design and Construction.

Dear Sir,—I am favoured with your letter of August 9, in which you confirm the intimation, cabled to me by the Minister of Home Affairs on August 15, of the resumption of the Federal Parliament House Competition announced by the Australian Government on June 13, 1914, and you express the hope that I may be willing again to accept the position of one of the adjudicators to which I was then appointed, but which was cancelled by Mr. Archibald's letter of November 16, 1914, in which he intimated that the competition had been "indefinitely postponed" on account of the outbreak of war.

I gather from your letter that only 114 applicants were registered competitors in 1914, and that you are resuming the competition on that basis?

In the list of towns which are named in the "Conditions of Competition" (page 1) as the source of distribution of "conditions," one is German, one Austrian, four are British, one is Italian, one French, one Russian, one Spanish, one Swedish, and one American. As the German and Austrian have been deleted, only three belong to neutral countries, and the others are still at war. Before definitely accepting the appointment, I would like to know: (1) The different nationalities of the competitors originally registered; (2) the number of each nationality; and (3) whether you have any reason to believe that those registered from the British Empire, from Italy, France, Russia, and elsewhere are likely now to be able to submit designs.

Here in any case our manhood up to forty years of age is engaged in military service, and many above that age are engaged in various branches of home service, and I understand that Australia has recently accepted "conscription" or its equivalent. It seems to me, therefore, that the chances of an international competition are remote.

As the two French Societies of Architecture have intimated to the R.I.B.A. that they do not desire to enter into competition during the war, I am communicating with M. Victor Laloux, my proposed French colleague on the jury.

It seems regrettable that you did not consult with the adjudicators before determining to resume the competition, and as the result published my name as adjudicator before getting my adhesion.

Awaiting your reply, I am, dear Sir,
Yours faithfully,
JOHN J. BURNET.

P.S.—Meantime I have cabled the Minister for Home Affairs as follows:

"Letter received, have written. Kindly withdraw my name as assessor pending your reply.—BURNET."

October 6, 1916.

The Hon. King O'Malley,
Minister for Home Affairs,
Department of Home Affairs, Melbourne.

Dear Sir,—I have the honour to acknowledge your letter of August 15 confirming your cablegram of the same date, in which you intimate the decision of the Commonwealth Government to resume the Federal Parliament House Competition, and in which you very kindly express the desire to reaffirm my appointment as adjudicator in accordance with Mr. Kelly's letter to me of June 25. By the same post I received a letter from the Federal Capital Director of Design and Construction intimating the appointment of Mr. Eliol Saarinen in place of Mr. Otter Wagner, and giving details of the competition of which I was not aware. I enclose a copy of a letter I have addressed to the Director on the subject, and must await his reply before accepting the appointment which you so kindly offer.

I need not, I hope, assure you of my continued and keen interest in the great work you have before you, but you will, I think, readily appreciate that I cannot definitely accept reappointment as a member of the jury until I have some assurance that under present conditions the competition is really likely to be the international one originally intended, and until I know what my colleagues (now Allies) feel in the matter.

I have the honour to be,
Your obedient servant,
JOHN J. BURNET.

P.S.—I have cabled you as follows: "Letter received, have written. Kindly withdraw my name as assessor pending your reply.—BURNET."

NEWS ITEMS.

"Fiberlic": Manchester Agency.

Mr. George Thompson, of 7, Brazennose Street, Manchester, has been appointed agent for the sale in that district of "Fiberlic," the building board manufactured by Messrs. MacAndrews and Forbes, Ltd.

Hastings Pier.

Nothing detracts so much from the appearance of a public building as dampness. We hear that the front of Hastings Pier entrance has recently been cemented, and as a safeguard against future dampness the powder "Pudlo" has been adopted.

Worthing Building Schemes.

The committees of Worthing Council have had schemes before them regarding works that can be put into execution after the war. They total to £43,900, and amongst them is a plan for the erection of workmen's dwellings at a cost of £15,000. Another scheme showed an improvement of the parade band stand at a cost of £11,000.

Mr. Frank Brangwyn for the Italian Front.

Mr. Frank Brangwyn, A.R.A., president of the Royal Society of British Artists, has been invited by the Italian Government to proceed to the Italian front in order to gather material for a series of pictures of the fighting there. He hopes to be able to accept the invitation when the work of preparing the autumn exhibition of the R.B.A. is completed.

New Canadian Arsenal.

The contract for the new Dominion Arsenal to be erected at Lindsay has been awarded by the Canadian Government to an American company which has had a large Canadian branch with headquarters at Montreal for some years. The contract will involve between £400,000 and £600,000, including both buildings and machinery. It is hoped that the work will be completed early next year and that the new arsenal will be turning out rifles and ammunition in time for the spring offensive.

Restoration and Redecoration of Stonework.

We are informed that the restoration of the stonework of Winchester House, Old Broad Street, London, E.C., has been carried out by the Stone Preservation Co., Ltd., of 9a, Little James Street, London, W.C., under the direction and supervision of Mr. Ernest Flint, F.R.I.B.A. The Winter Garden of the Regent Palace Hotel, London, W., is being redecorated with "Coatostone," manufactured by the Coatostone Decoration Co., of the above address.

Sequel to the Government Timber Contracts Discussion.

In the King's Bench Division, on October 19, before Mr. Justice Darling and a special jury, a settlement was announced in an action in which Mr. Montague L. Meyer, of Messrs. Meyer, timber merchants, claimed damages for libel against the proprietors of the "Morning Post." Plaintiff complained that the newspaper had written of him last March as if he were a person of German origin or connections. Mr. Meyer stated in court, however, that his family was British born and bred for many generations. There was no truth whatever in any suggestion that he was of German origin or was connected with Germany. Counsel for defendants admitted that there was no ground whatever for implying that Mr. Meyer was of German origin or had German sympathies. Mr. Justice Darling said that the record would be withdrawn on terms. It could easily be understood that when the articles complained of had appeared in the "Morning Post" Mr. Meyer was bound to take notice of them. The matter had been explained. Mr. Meyer occupied a position which meant that the Government had given him their confidence. That confidence had not been withdrawn because of what the "Morning Post" had published. Therefore it could not be said that Mr. Meyer had suffered any real injury. In these circumstances the defendants had behaved handsomely in paying the plaintiff, not only his costs, but £250.

Housing and Health.

The effect of housing conditions on health is strikingly indicated in the report of the Medical Officer of Health for Sunderland for last year. In respect to infantile mortality, in regard to which the town has a rate of 151 per 1,000 births or 41 per 1,000 in excess of the average for England and Wales, the Central Ward, which has a very congested industrial population, has a rate of 259 deaths per 1,000, and the East Ward 213 per 1,000, whereas in the West Ward, where there is little overcrowding, the rate is as low as 97 per 1,000.

Clyde Trust's New Docks.

The Clyde Navigation Trustees have found it necessary to postpone the construction of their proposed docks at Shieldhall and certain other works for which they have powers to proceed. They are applying to the Secretary for Scotland for an extension of the time for the compulsory purchase of certain lands which they are to take over for the purpose of making two tidal basins, diverting and altering Renfrew Road, and making five dock tramways. Their present time expires on August 7, 1917, and they ask for an extension for an additional year.

Factory Building in Oban.

Considerable local interest has been evinced in a scheme which is at present in contemplation for the development of The Aird—a stretch of waste ground lying between the Nevis and Lochy, near where these rivers fall into the sea. The project just now is in the embryo stage only, but it is understood that the proposal is to erect a large factory with relative blocks of workmen's houses. A survey of the ground has just been completed.

Factory Roofs

A meeting of the Plans Committee of the Aberdeen Town Council—Councillor Graham, the convener, presiding—had under consideration six sets of plans of buildings of an estimated value of £4,000. In the case of several large extensions to public works the committee did not see their way to sanction the plans owing to the roof not being of slates. It is proposed strictly to adhere to the rule that the roofs of all buildings must be provided with a covering of slates or tiles. The other plans were approved.

Architect's Fatal Fall.

An inquest was held on October 19 at Llandudno touching the death of Mr. Archibald Duncan Watson, aged fifty-four, retired architect. Mr. Watson was one of the sidesmen of St. Paul's Church, Llandudno. Some damage was done to the roof of the church in the recent storm, and Mr. Watson, who was a heavy man, volunteered to inspect the roof to ascertain the nature of the damage and to advise upon the work required to make it good. A long ladder was reared up inside the church. Mr. Watson desired that the ladder should be removed to another position. Before it had been refixed to the men's satisfaction he ascended it. When he had gone up about fifteen steps there was a crackling sound. Mr. Watson said it was all right, and continued to ascend. Shortly afterwards the ladder broke. Mr. Watson fell on his head on the tiled floor, and was removed to the Cottage Hospital, where he died. The jury returned a verdict of accidental death.

SOCIETIES AND INSTITUTIONS.

Royal Technical College, Glasgow.

At a meeting of the Royal Technical College Architectural Craftsmen's Society, Glasgow, held in the College, Mr. James Muir, vice-president, in the chair, Professor Charles Gourlay delivered a lecture on "Durham Cathedral." The lecturer stated that to attempt to unravel the history of one of the many mediæval buildings in Britain was a most profitable educational pursuit for the architectural craftsman, because of the excellent insight into the principles and practice of mediæval architecture thereby obtainable. After quoting that the late Professor Freeman wrote of Durham Cathedral, with its adjuncts and surroundings, as "the finest Romanesque monument in Europe," he dealt fully with the plan and design of the Cathedral, describing its beautiful situation on the banks but high above the level of the River Wear. To enable a true appreciation of the grandeur of the interior and exterior of Durham to be made, a comparison was instituted by showing views of other Romanesque cathedrals in England and Normandy, the result showing clearly the great superiority of Durham. The Galilee, Nine Altars Chapel, and the monastic buildings were also illustrated and described.

OBITUARY.

Lieutenant Basil Scott Holmes.

We greatly regret to announce the death of Lieutenant Basil Scott Holmes, Machine Gun Corps, who met with a fatal accident when being driven in a motor-car through Wandsworth on October 24 by a brother-officer. The only son of Chancellor Scott Holmes, of Wells, he was 32 years old, and was educated at Dean Vaughan's School at Llandaff and Sherborne, and as an exhibitioner of Sidney Sussex College, Cambridge, took his degree in honours in the History Tripos. After some months in Germany and Paris to learn the languages he was sent as Assistant Commissioner to Sokoto, N. Nigeria. He was, however, invalided home after a year's work in Africa, and took up educational work at the Bristol Grammar School and at Berkhamsted. In 1912 he was appointed Registrar of Students at the Architectural Association, Westminster. He joined the A.S.C. in September, 1914, and in November got a commission in the K.R.R.C. In the spring of this year he was transferred to the Machine Gun Corps. In 1913 he married Barbara, the daughter of Dr. and Mrs. Willey, of Reigate. He leaves a widow and two daughters.

SOCIETY OF ARCHITECTS.

At a special general meeting of the Society Architects, held at 28, Bedford Square, ondon, W.C., the President, Mr. E. C. Monson, F.R.I.B.A, having taken the air, the minutes of the previous meeting, hich had been printed in the Journal, re taken as read, and were confirmed and gned.

The Secretary announced three nomina- ons for membership. A ballot was then ken for the following candidates for mem- rship, and was declared to be unani- ously in their favour: Bray, John San- rs, Cardiff; Davidson, Thomas Malcolm, roonstadt, C.F.S.; Munden, Patrick hn, Dublin; Smith, Irwin George, Nor- ch.

The scrutineers' report on the ballot for e election of officers and council, 1916-17, as then received, showing the following ections: President, Sadgrove, Edwin J., .R.I.B.A., London. Senior Vice-Presi- nt, Scott, A. Alban H., M.R.San. Inst., ondon, Junior Vice-President, Partridge, dward J., F.S.I., Richmond. Past-Presi- nts (ex-officio), Hamilton, E. J., Brigh- n; Lish, J. J., Newcastle-upon-Tyne; onson, E. C. P., F.R.I.B.A., London; idmore, A. E., F.S.I., London; Tubbs, ercy B., F.R.I.B.A., London. Honor- y Secretary, Sheffield, Noel D., London. onorary Treasurer, Pearson, J. Herbert, ondon. Honorary Librarian, Taylor, fred J., Bath. Delegate from South rican Branch, Wowsett, S. C., Johannes- urg. Members of Council, London: dams, Henry, M.Inst.C.E., F.S.I.; ines, George, F.R.I.B.A.; Bare, R. o.; Bowden, J. A.; Ellis, Herbert O.; rie, G. Blair; Inglis, T. Stewart; Jack- n, Chas. E.; Leslie, Col. F. S., R.E. et.); Moscrop-Young, F. C.; Paine, eorge H.; Tucker, B. R. Country: eaumont, P. M., A.M.Inst.C.E., Maldon; ncellor, B. D., Winchester; Cratney, dward, F.R.I.B.A., Newcastle-upon- yne; Davies, R. Cecil, Chester; Dickens- ewis, Geo. E., Aberystwyth; Gill, Harry, ottingham.

There being no observations on the port, it was resolved that it be adopted d entered on the minutes.

Mr. E. J. Hammond (Gillingham) pro- sed a hearty vote of thanks to the out- ing President, Mr. E. C. P. Monson, o had filled the chair for two years with markable success. Mr. Monson was a ry busy man, and he held many other ominent positions, but he had given a eat deal of time to the society's affairs, d all that he had done had tended to its vancement. Mr. B. R. Tucker (London) conded the proposition, which, on being t to the meeting, was carried with accla- ation. Mr. E. C. P. Monson, F.R.I.B.A., anked the members for their expression appreciation, and expressed regret that ring his term of office the society had en unable to accomplish much construc- ve work in co-operation with other bodies, they had been met with the statement at contentious points could not be dis- ssed in war time. He was of opinion that e present was eminently the time for the olution of a constructive policy, inasmuch the ordinary work of most professional dies had been suspended owing to the r. He thought that as the tendency at e moment was for all classes to work in rmony for the common good, now was e opportunity for the discussion of con- ntious matters, so that the way might be ared for a better understanding when ese questions were once more raised after e war. He then invested the new Presi- dent, Mr. Edwin J. Sadgrove, F.R.I.B.A., with the chain of office, and expressed the hope that during his term of office peace would be declared and the work of the society taken up with renewed interest and energy.

Mr. Edwin J. Sadgrove, F.R.I.B.A. (President), expressed his appreciation of the confidence of the members in electing him to the society's highest honour, and said he would do his utmost to uphold the best traditions of the chair. Many of the newly-elected members of Council were old colleagues of his, and would, he knew, share the anxieties and responsibilities of the position with him.

Votes of thanks were accorded to the retiring officers, and members of the Council, the scrutineers, and the secretary and staff.

THE FUTURE OF CHARING CROSS.

In the third and concluding article in the "Observer" by Mr. John Burns, Sir Aston Webb, and Mr. Reginald Blomfield on the Charing Cross improvement question, the authors suggest a general scheme. It is advanced only as a suggestion. There are many points requiring the closest investigation before it could take more definite shape, but not much advance will be possible until proposals are formulated. They suggest that the right solution is to shift the bridge and its approaches further east. The line of the new road-bridge and its approach from the Surrey side would start from a circle or "rond-point" at the junction of the Waterloo with the York Road, and would be carried in a perfectly straight line from that point to the centre of the tower of St. Martin's-in-the-Fields. This gives a total length of 3,300 feet from the centre of the "rond-point" to the point at which the axis line intersects the wall of St. Martin's churchyard, a length amply sufficient for the suggested width of the new bridge, about 120 feet. The fine tower and spire of St. Martin's Church would make a splendid architectural monument at the west end of the new roadway, which would open up the whole of the church. At the intersection of the roadway with the West Strand a "place" might be formed, and by shifting the Charing Cross monument a few feet to the south this would also be on the axis line. (As the monument is modern and its site appears to be hypothetical there would be no serious objection to this on historical grounds.)

The New Station.

On the Surrey side the area to the south (or Lambeth) side of the new approach to the bridge would be assigned to the company for their new station, leaving plenty of room for this and for a large "place" on the north side of the new station, occupying the triangular square formed by the existing buildings on the north-east side of Waterloo Road, and the façade of the new South-Eastern Railway station. So far as one can see, there would be practically no restriction to the new station area on the Lambeth side of the approach to the new bridge, and a great station and hotel could be built here in convenient proximity to Waterloo Station without crowding the latter. There are no very important buildings in the area proposed, and it would be possible to get a site here for the station and hotel at least four times as big as the present Charing Cross site, with, of course, extension of the line of entry for the rails, and without interfering with important traffic roads. The site could indeed be extended south just as far as should be deemed necessary.

A Great "Place."

From the practical point of view this scheme would provide ample room for the new station and its approaches. It would bring the new bridge and roadway into direct communication with Waterloo Road, a main arterial road opening up the great south-eastern roads. The area proposed to be taken over is occupied by unimportant buildings, owned for the most part by public bodies, and an opportunity would be given of dealing, at the same time, with the south approach to Waterloo Bridge, by far our finest bridge at present, by means of a triangular "place" about 600 feet wide at the base next the river, and something over a thousand feet from the river end to the centre of the "rond-point" in the Waterloo Road. Ultimately the foreshore, now a mud flat at low tide, should be reclaimed and laid out as an embankment and garden at a lower level, as on the opposite side of the river. On the west side the scheme would leave the larger part of the ground now occupied by the station and its approaches free for development, and would do away with Villiers Street and the buildings in its neighbourhood.

Lastly—and it is not the least important consideration—the new roadway would not interfere with the railway bridge, and would leave the company free to build their new station and rearrange their traffic with a minimum of inconvenience. Among other advantages to the company they would be saved the cost of the maintenance and repair of their present bridge. The new bridge, being a high level bridge, would avoid all difficulties of navigation, levels and gradients, would leave free access from Northumberland Avenue to the Embankment as at present, and would avoid interference with existing tramways.

A National Monument.

On some such lines as these it seems to us that an unrivalled opportunity presents itself of carrying out a far-reaching improvement in the civic architecture of London, a scheme of very real benefit to the public, and a superb national monument, as we all hope it will prove to be, of this tremendous war. On the part of ourselves and our Allies that war is being fought for high ideals, and when the war is over those ideals should find their expression in some enduring memorial that all may see and all may profit by.

There can be no finer chance than this. Waterloo Bridge was built in 1817, a noble tribute to the stark, grim courage of our ancestors. This new bridge should be the symbol of the sacrifices of our country and the herald of the vast changes in our life and outlook upon life that this war must bring about. It should show that we have left behind us the poor ideals of utilitarianism, and that we have set our hearts on other things than buying in the cheapest markets and selling in the dearest. There are models elsewhere to show what can be done with a bridge, the Pont Alexandre at Paris, the bridge at Tours, or the great bridge over the Garonne at Toulouse, but this new bridge should be something finer than any. The best of our engineers, our architects, and our sculptors should find their opportunity, great public bodies, His Majesty's Government, the London County Council, the Road Board, the Corporation of the City of London, the Westminster City Council, and the Lambeth Borough Council should co-operate; and if any of our public men desire immortality here is their chance.

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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BUILDER'S Assistant or Manager requires Situation. Over military age. Wide experience in all branches of building and jobbing trade. Office routine, estimating quantities, supervision generally throughout. Good testimonials.—Pavey, 27, Canterbury-road, Sittingbourne.

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BUILDER'S General Foreman (disengaged) wants job. Town, country, or abroad. Experienced in all branches of the trade, including ferro-concrete. Life abstainer. First-class employers' references.—W., 2, St. Mary's-road, South Norwood, S.E.

BUILDER'S General Foreman seeks engagement. Good manager. Excellent references. Used to W.O. and public contracts. Carpenter and joiner. Town, country, or abroad. Good timekeeper.—Foot, Laceygreen, Princes Risboro', Bucks.

BUILDER'S General or Working Foreman requires engagement; fourteen years' experience on various classes of work; London and country; good references; by trade, carpenter and joiner; any offer considered; now disengaged.—Curtis, 509, Waterside, Chesham, Bucks. 913

BUILDER'S General Foreman just disengaged. Competent, reliable, good draughtsman and manager of men. Excellent references.—C. W. 6, Roland-road, Walthamstow, N.E. 908

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, November 8, 1916. Volume XLIV. No 1140.



DETAIL OF CEILING AT "DEYSBROOK," LIVERPOOL. WITH PAINTED DECORATIONS BY ALFRED STEVENS.

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 8, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1140.

EDITORIAL.

THE street "war-shrine" movement is rapidly spreading. It has reached the Midlands, and Manchester and Liverpool are considering it. By way of commentary, a writer in the "Liverpool Daily Post" shudders at the notion of "every other street having some crude or tawdry tablet," but praises the London shrines as being usually of tasteful design. "This," he says, "is due to the fact that those who have fostered the movement have standardised and executed wholesale a number of acceptable patterns." His blame, like "crusty Christopher's," is more tolerable than his praise; for who that has hopes and fears for art can avoid repugnance at this wholesale and standardising business? If multiplication of patterns is unavoidable, it is well that the patterns should be tastefully chosen; but it is also well to discriminate between what is proper to war-memorials and what is allowable for wall-paper. Frankly, we regard the street-shrine movement with considerable distrust, not solely because it originated in this country as a newspaper enterprise, but because true and deep respect for sacrifice recoils from any approach to mawkish excess, and refuses to be commercially standardised and sensationally exploited. "Let there be nothing in excess" is a principle of art that seems to apply quantitatively as well as qualitatively; and if these street memorials are to compete in thousands with the advertisement hoardings, which vulgarise rather than democratise art, they may possibly dissipate in driblets the volume of emotional interest which should find stately and dignified expression and serene environment.

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Peace also hath her memorials, and it is gratifying to find that many of them are being designed by architects. Mrs. Claudine Paston Brown was for more than twenty years an energetic social worker in Wimbledon, and to her memory a tablet, designed by Sir T. Graham Jackson, R.A., has been placed in Wimbledon Public Library. Here are three good points—the memorial commemorates a civilian, it was designed by an architect, and it is appropriately housed. There is some considerable danger that, in the very laudable eagerness to honour the heroes of war, merely civic achievements will go unregarded, and the present example to the contrary is therefore the more welcome, especially since the subject is a lady. It is unnecessary to emphasise the second point; but the third encourages the larger hope for library design—that a public library should not consist of a mere stone or brick box for books, but should fulfil other social functions which, with one exception, need not be mentioned here. In most libraries that have a vestibule there is a marked tendency to place in it local memorials of various kinds, whether or not the architect anticipated this practice. Why not frankly recognise that the public library is a potential Valhalla, and design it accordingly?—always bearing in mind that a free library is for this purpose more suitable than a church that is open on only two days a week, and then for purposes which religiously exclude the inspection of memorials.

* * * *

A contract remains binding, although suspended by order of the Minister of Munitions. That is the effect of the judgment delivered by Mr. Justice Bray in the action brought by the Metropolitan Water Board against Messrs. Dick, Kerr, and Co. A declaration that the contract was still in force was sought by the Board, and the defendants contended that as performance had become impossible and illegal the contract had ceased to exist, and that they were therefore justified in removing and selling portions of the plant with which the contract (for two reservoirs at Staines) was being executed when the Ministry ordered that the work must stop. As the law stands, Mr. Justice Bray could only find for the plaintiffs on the main issue, but he made no order as to the plant which had been removed. It is nevertheless sufficiently clear that a contractor whose work has been suspended by order of the Ministry of Munitions must leave his plant on the job. He may not remove it for use on Government work, or on private work with which he may proceed by licence, or for sale to some contractor who is more fortunately situated than himself. It is his property (or rather, it is *pro tem.* the property of the building owner), but he may not realise on it, no matter how great his need, which is by no means to be measured by the wealth and standing of the defendants in this action. Where it is, there it may rest and rust and rot for all the relief the law can give him. Such instances must be innumerable, and no doubt the organised master-builders and contractors have brought (or are bringing) the matter to the notice of the Government. The appearance of the Metropolitan Water Board against Dick, Kerr, and Co., should strengthen the case for relief; for while it failed to vindicate the contractor it is valuable as exhibiting and defining one of the many grievous hardships which the war has inflicted upon him.

* * * *

A cablegram from Melbourne announces an extension of the time for receiving designs for the Federal Parliament House Competition to April 30, 1917. This will be recognised as a step in the right direction although it halts at the wrong end of the month—the adventure wearing a first-of-April air; but the extension should have covered the duration of the war. Whether the announcement implies final decision by the Government to disregard the advice of the R.I.B.A. and other professional organisations, or whether the extension is merely an automatic detail of delegated authority, is not absolutely evident, but it

ouses a dismal foreboding that the Government are rectly responsible for it, and that it signifies their termination to proceed. Why, in face of the most rnest advice, based on every reason of fairness, triotism, and practical wisdom, the Federal Govern- ent should remain obdurate, is inexplicable to those o are solely concerned with the merits of the case; d one suspects that the situation is governed by litical expediency. It is simply inconceivable that, art from some such malign influence, the Federal overnment should have arrived at a decision which is monstrably unwise, and, alternatively, could only regarded as immoral. Party emergencies might plain, but could not excuse it.

* * * *

A review (in the "Times Literary Supplement"), aded "The Problem of Organic Form," naturally ures the architect, who will overcome his disappoint- nt at finding that it deals with animal morphology en he comes upon such illuminating passages as 's: "Keen intellectual combatants are still arguing, Cuvier and Geoffroy argued, whether function has priority of form or form of function, albeit this ms suspiciously like debating whether the stream nditions the character of its bed or the bed the aracter of the stream. Both views surely state part he truth." Or, to descend from these cold scientific ghts, a lazy man may make a soft bed and a soft l a lazy man. Reciprocity, or interaction, is too en overlooked, especially by the engineer who is so ger for frank expression of function that he con- tly exposes his unclothed skeleton to the ndalised public gaze. He produces, *e.g.*, Charing ss Bridge, which affrights humanity because it onts nature. But that there is a certain amount of e-and-take between form and function is no news he architect, who is aware that the general advice uild from within outward, or to base the design n the plan, does not mean that he should lay out his h without so much as a fleeting thought of external ct. It implies, rather, that for no single moment uld he become absorbed in the one to the exclusion he other; and so, to some slight extent, form may e priority of function.

* * * *

Mr. Walter Long, who on October 31 received a utation on arterial roads, did not greatly encourage s hopes on that head. He emphasised the money iculty, and made it quite clear that, personally, he uch more interested in housing and sanitation than oads, and that at present he is thinking solely of war, to which all his time and strength must be n. That is no doubt a very proper frame of mind a Minister, even though he happens to be President he Local Government Board, which is not a con- iously militant department, but, as Mr. Alderman ester said in introducing the deputation (at which Aston Webb represented the R.I.B.A.), "England have a future," to which even war-time emer- ies should not make us entirely and ecstatically ious. Mr. Long did not definitely suggest that deputation was inopportune, nor could such a sug- ion have been passed unchallenged. If there is one virtue in which this country is flagrantly and rably lacking it is that of looking ahead, and of eiving more than one object on the horizon; and aration in advance is an essential virtue of town- ning. It is no doubt expedient, as a rule, to keep rate things apart; but housing, sanitation, and ial roads, should stand together in more or less ate relationship—a fact which Mr. Walter Long eemingly failed to grasp. When the war is over, ill devote himself energetically to the housing ion, letting the Road Board do what it will in the matter; and so "chaos is come again"—division where there should be unity. But the question of arterial roads is not determined by the momentary attitude of the President of the Local Government Board for the time being. Mobilisation on a scale of unprecedented magnitude will have opened the eyes of the military authorities, and industrial expansion will heighten the effect. It will be impossible to shelve the problem of arterial roads; and as the housing question is inextricably involved in it, mere commonsense utilitarianism demands that the two things shall be considered in conjunction.

* * * *

Flats, it is noted, have acquired fresh popularity in Liverpool as they have in London and in many other towns. This is, of course, a direct consequence of the war, and does not denote a revival of the ephemeral craze which made flats fashionable. It is dictated by the halt in housing, by the dearth of domestic servants who have been attracted to war work of various kinds, by the emergencies attending hasty khaki weddings, and by the relinquishment of larger establishments. These conditions being but temporary, it would be unsafe to infer that further provision for them should be made. Increase in the rents of medium-sized houses may possibly improve the prospects for flats, because, while their rents must certainly share in the upward movement, tenants will hope to save on service, social functions, and other concomitants, which render house-dwelling relatively dearer on the balance; but we apprehend that the movement towards flats will not last very much longer than the duration of the war, and that formidable competition may be expected from the extensive erection of middle-class houses of rather smaller size than those now prevalent, but abating no jot of architectural amenity. Indeed, one would rather expect a tendency to make amends for the contraction in size by a closer attention to details of design and decoration; and as there will be a refinement of scale, so there will follow a corresponding diminution on the expansive sumptuousness which, somewhat overdone in the larger houses, would become coarse and cumber- some in the small. It would not be surprising if there were to ensue a revival of the delicate art of miniature painting. Chippendale grace will pervade the interior; wherein Greek elegance will combine with Japanese economy. Nothing in a room shall be superfluous, and every object shall justify its presence by its beauty. Herein is an unprecedented opportunity for the arts and crafts protagonists and their effective army of disciples.

* * * *

York House, which has come into prominence by the King's having granted it as the official residence of Sir William Robertson, the chief of the Imperial General Staff, is attached to St. James's Palace, which from the time of the burning of Whitehall, in the reign of William III., to the occupation of Buckingham Palace by Queen Victoria, was the sole London palace of sovereignty. Tradition has it that the building stands on the site of a hospital for lepers founded in the tenth century, and that for the rebuilding Henry VIII. chose Holbein for his architect; but, with the exception of the old red-brick gateway, the chapel adjoining, and a portion of the presence chamber, the building was destroyed by fire in 1809, and it was then that it was superseded in its functions by Buckingham Palace. In the Great Council Chamber the odes of the Poets Laureate were formerly recited or sung before the King and Queen. Charles II. and James II. were born at St. James's, where Charles I. spent the last night before his execution, passing the next morning—January 30, 1649—guarded by a regiment of foot, to the scaffold before Whitehall, mounting it at the spot now indicated by a small tablet let into the wall of Inigo Jones's Banqueting House.

THE RE-PLANNING OF CHARING CROSS.

The statement of the case for the re-planning of Charing Cross which has been published in a series of articles in t "Observer" by Mr. John Burns, M.P., Sir Aston Webb, R.A., and Mr. Reginald Blomfield, R.A., has now been issued in t convenient form of a pamphlet which has for frontispiece the scheme which is reproduced on the next page. The following extrac are taken from the text of the pamphlet.

THE idea of transferring Charing Cross Station to the Surrey side of the river and forming a new roadway bridge between Waterloo and Westminster Bridges has long been familiar to those who have the improvement of London at heart, but the recent action of the South-Eastern Railway Company has raised the whole question as a vital issue, even amidst the all-absorbing interests of the war. To the public it is the most important project that has been presented since the days of the Thames Embankment. Indeed, it would inaugurate a transformation of London not less wonderful than that splendid enterprise. The river is, æsthetically, London's greatest asset, and it is really a monstrous thing that the very finest point of the river, from which westward one looks to the Abbey, the Houses of Parliament, Scotland Yard, and the new County Council Hall, and eastward to the City, with its multitudinous spires and the glorious dome of St. Paul's, should be occupied by this ugly railway bridge and Charing Cross Station.

Moreover, some method of relieving the traffic across the river has become an absolute necessity. The inconvenience of getting to the south side of the river, and the congestion of traffic on Westminster, and particularly on Waterloo Bridge, is familiar and intolerable; a new traffic bridge between those two points will sooner or later become a necessity, and this is a matter in which the ratepayers of London should take a very keen interest. What may be costly now will be doubly costly later on. Vast sums have had to be spent in undoing the harm done in past generations through ignorance, indifference, and total want of prescience. Great municipal improvements are like the Sibylline leaves. The chance, once missed, is gone for ever, and it is from bitter experience of the lost opportunities of the past that we are slowly learning to look ahead. The public case for the transfer of the station and the construction of the new bridge appears to us to be established on unshakable grounds.

Nor is it to be supposed that those who urge this case are actuated in the slightest degree by any feeling of hostility to the company. The railway company is endeavouring to serve the public in its own way; our contention is that we can show them a more excellent way; and that there is no need for a general deadlock as between the company and the public. These things are apt to be handled too exclusively from a utilitarian point of view, and it is here that the intelligent public, keenly interested in this matter, can help. It is from this point of view, and not to advocate any architectural caprice, that we now give a sketch of the history of the whole question, offer certain criticisms from the point of view of civic architecture, and make a suggestion as to a possible solution of the problem.

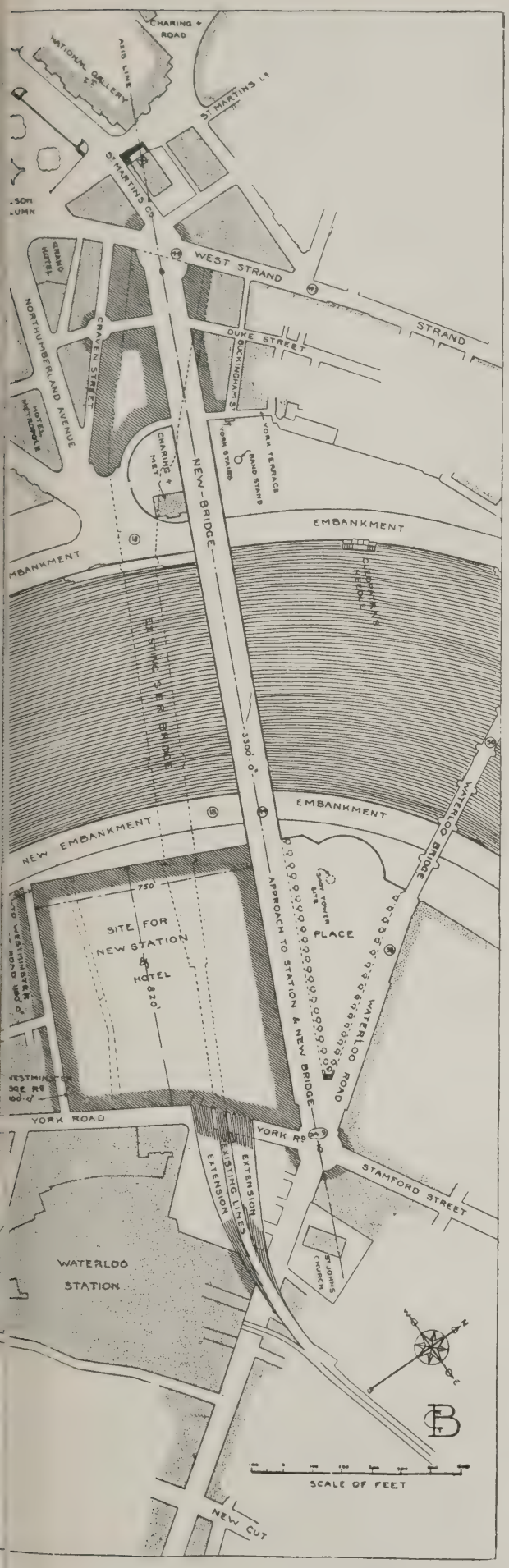
The present Charing Cross Bridge was constructed in 1859, from the designs of Sir John Hawkshaw. It was on the site of the old Hungerford suspension footbridge, and Hawkshaw made use of the piers which were provided on the old bridge to carry the towers for the suspension chains. With this exception the whole of the old bridge was removed and reconstructed as the Clifton Suspension Bridge. Hawkshaw's design was in six spans, three over the Thames and three over the Embankment, and he formed new piers with hollow iron cylinders 10 ft. in diameter above water, since filled in with concrete. The width out to out of the cylinders was 59 ft. In 1882-88 the bridge was widened by the provision of three additional lines on the Westminster side, to a width of 110.0 ft. out to o of the superstructure. In 1900 the company appli to Parliament for permission to widen the bridge l three additional lines on the City side, adding 54.6 to the width of the superstructure, and giving a tot width of 164.6 ft. This was granted by Parliame and the approval of the necessary authorities w obtained by 1902. Nothing, however, was done carry out this scheme of widening, nor has anythi been done since.

It was not till the present year that the compa substituted their scheme of strengthening the brid for their project of widening it. Their proposals strengthening the bridge, or, rather, the original brid of 1859 built under Hawkshaw, are: To build fo masonry piers between each pair of columns standi in the river, each pier to be 40 ft. long by 24 ft. wi with sides battered. On the top of these piers it "proposed to erect a pair of balanced cantilever (Mr. Tempest's evidence) 14 ft. apart, bolted down the piers, and overhanging beyond their face 37 and to bridge the intervening space of 63 ft. betwe the opposite ends of cantilevers with connecting gird on the top of the cantilevers secured with "all kinds bolts, bent irons, and angle irons." These constructi would catch up the underside of the transverse gird carrying the rails, which are suspended from the ex ing lattice girders. Mr. Tempest gave it as his opin that the proposed iron arch would improve the appe ance of the bridge, though on the Westminster side bridge would show the existing square-hea openings, while on the side of the City it would pres these arches.

In May of this year the scheme came before a Se Committee of the House of Lords, where it opposed by the gas companies on the ground that th alterations to the bridge would obstruct the naviga of their coaling steamers to gasworks above the bri and in addition by representatives of the Lon County Council, the Port of London, and by spe instructions from the House of Lords to the Se Committee, by the Royal Institute of British Ar tects, and the London Society. The greater par the proceedings were taken up with the examina of witnesses in relation to technical points of r navigation and bridge construction, and their L ships paid somewhat scanty attention to the evid on the really vital issue of the whole affair—namely effect on a great scheme for the improvement London—although that evidence was given by representative men as Mr. John Burns, Sir W. L Sir Lionel Earle, Sir Aston Webb, and Mr. And Taylor. Their Lordships passed the preamble of Bill; but on its appearance before the House of C mons the Bill was rejected by the House, on the mo of Sir W. Essex, supported by Mr. John Burns other speakers.

The opponents of the Bill in Committee had a for its postponement for two years after the wa order to allow time for the consideration of c schemes.

The objections to Charing Cross Station are m fold. Sir Francis Dent, the general manager, unnaturally attached much importance to having station on the north side of the river, pointing to possibilities it afforded of through communica There might be force in this, if the station were rebuilt on the south side without a new road-brid



Scheme for a New Bridge across the Thames at Charing Cross and a New Station on the South Side of the River. By Mr. John Burns, Aston Webb and Mr. Reginald Blomfield.

its logical corollary; but that road-bridge is an essential part of the whole scheme, and given that on a sufficiently ample scale the fancied difficulties of access to and from the south side would disappear. The present station is clearly too small for its purpose. Its approach for motors and carriages is absurdly constricted, as anyone may realise who recalls the hopeless mix-up of taxis and the babel of the station inside and out on the arrival of the Continental trains.

From the traffic point of view there is nearly always a block opposite Charing Cross in consequence of the whole of the station traffic debouching on to the Strand at right angles in a very crowded part. Sir W. Lever, a witness of first-rate authority in this matter, said in evidence: "The congestion of traffic in London is accountable for the extraordinarily high rates that have to be paid for cartage, moving goods inside London, which are certainly not less than three times the rate of the dearest towns I know of." He also said: "I am perfectly certain that it is impossible to have an adequate station for Continental traffic at Charing Cross," the total area of which is said to be some four acres, as compared with some thirteen acres of the new Victoria Station.

The station and the hotel are even more hideous than the bridge itself, which Mr. Burns aptly described as "that ugly red oxide Behemoth which sprawls from north to south." After all, there is something in architecture as the visible symbol of a country's greatness. Great statesmen of other countries have appreciated this in the past. Colbert, for instance, who laid the foundation of the artistic supremacy of France, reminded Louis XIV. that the greatness of princes was measured in future ages by the greatness of their buildings, and though the British Government has been supremely indifferent to all the arts, we need not suppose that this callous insensibility is a law of nature, or even part of the constitution of the country. The S.E.R. and L.C.D.R. might well learn a lesson from the courage and enterprise of their neighbour at Waterloo, and concentrate on a worthier effort.

The crying need for a roadway bridge from Charing Cross to the Surrey side becomes greater every year—first, in order to facilitate the traffic, and, secondly, for the development of the Surrey shore. The distance between Westminster and Waterloo Bridges is greater than that of any two other London bridges. The distance between London Bridge and Southwark is about 480 yards, between Blackfriars and Waterloo 960 yards, between Waterloo and Westminster 1,200 yards. The enormous increase in traffic over the two latter bridges is shown by the Board of Trade Returns, and, owing to their congested state, Waterloo Bridge will certainly have to be widened unless relief is given by the formation of a new road bridge from Charing Cross to the Surrey side.

It is quite clear that the London County Council has never lost sight of this great chance of improving London, and in the proceedings before the Select Committee Mr. Andrew Taylor, Chairman of the Improvements Committee, undertook, if their Lordships threw out the Bill, "to take all necessary steps for bringing to a focus the actual carrying out of the scheme." The London County Council was, he said, unanimous in opposing the Bill, and he undertook to lay the matter before the Council in order to get an assurance that he might communicate with all the authorities concerned, a most welcome announcement, for the London County Council is undoubtedly the authority to take up and carry through this great scheme for the improvement of the mighty city over whose destinies they preside. With the London County Council would co-operate, it is hoped, His Majesty's Government, the Port of London, the Corporation of the City of London, the Westminster City Council, and the Lambeth Borough

Council; and on this basis and with goodwill all round there is every reason to hope that negotiations with the company would be conducted to a successful issue. The company should get what it wants on the other side of the river, and the bridge itself should be a national monument in the fullest sense of the word.

On some such lines as the scheme here illustrated it seems to the authors that an unrivalled opportunity presents itself of carrying out a far-reaching improvement in the civic architecture of London, a scheme of very real benefit to the public, and a superb national monument, as we all hope it will prove to be, of this tremendous war. On the part of ourselves and our Allies that war is being fought for high ideals, and when the war is over those ideals should find their expression in some enduring memorial that all may see and all may profit by. There can be no finer chance than this. Waterloo Bridge was built in 1817, a noble tribute to the stark, grim courage of our ancestors. This new bridge should be the symbol of the sacrifices of our country and the herald of the vast changes in our life and outlook upon life that this war must bring about. It should show that we have left behind us the poor ideals of utilitarianism, and that we have set our hearts on other things than buying in the cheapest markets and selling in the dearest.

CORRESPONDENCE.

The Cost of Daylight in Comparison with Electric Light.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—There seems to be so much misapprehension, particularly amongst architects, as to the point that daylight costs nothing, and such a tendency to sacrifice valuable space to secure daylight illumination when artificial lighting could provide illumination far more effectively and cheaply, that I should like you to publish the following letter written to the "Lighting Journal" of New York, by Mr. M. Luckiesh, of the Laboratories of the National Electric Lamp Association of Cleveland:

"In lighting discussions it is not uncommon to hear such statements as this; 'a great virtue of daylight is that it costs nothing.' Outdoors this is usually true, but in the vast field of human activities where artificial light aids and competes with natural light, such a statement is absurd. From the standpoint of construction, openings such as windows and skylights are not costless. In other words, interest upon a permanent investment as well as a maintenance cost must be charged to the daylighting, and therefore at once it ceases to be free from cost. Furthermore, when the value of land, especially in large cities, is considered, a light court in the middle of a multi-storeyed building adds to the cost of daylight. In such a case a large area of rental space is sacrificed for the purpose of admitting daylight, and it appears that the cost of daylight would not be inconsiderable. Of course, light courts provide ventilation, but it seems possible that ventilation could be provided without such a great sacrifice of space.

"The discussion could be carried further to the consideration of valuable wall space in stores where rental prices are high, and possibly even in factories.

"By no means is this comment designed to suggest the abolishment of daylight even in cases where it might be found too costly, but rather to suggest that some architect, who may have figures available, should favour us with a discussion of the cost of daylight."

F. W. WILLCOX.

General Manager, Lamp and Wiring Supplies Dept., British Thomson-Houston Co., Ltd.
London, E.C.

THE PLATES.

Design for a Commemorative Column.

THIS is by Mr. Arnold P. Hodges, a student at the Architectural Association School of Architecture (now directed by Mr. Robert Atkinson, F.R.I.B.A.). It shows a graceful composition based largely on French examples, and is of special interest at the present time, when all monuments and columns of a commemorative nature have an intense significance.

Doorway in R.I.B.A. Council Room.

The doors and door-frames in No. 9, Conduit Street, the building which forms the headquarters of the Royal Institute of British Architects, are admirable examples of eighteenth century domestic woodwork. The doors themselves, of mahogany, are excellent pieces of joinery, and the door frames, with enriched architraves, friezes, and cornices, exhibit the same good workmanship and refinement of design. The door frames are painted.

South Wales and Monmouthshire School of Mines.

Situated at Treforest, in the heart of the coal mining industry of South Wales, this school, the only one of its kind in the district, has been established for technical training in the science of mining. The existing Forest House, a stone-built mansion, has been extensively enlarged, altered and rearranged and a new block connected to the older building by corridors has been added. Fortunately the heights of the storeys were greater than is usual in such buildings, so that all the rooms as adapted are pleasant and airy. The new block, on the left of the plan, is of fire-resisting construction, the walls being substantially built of stone and the floors, stairs, beams, stanchions, and roof of reinforced concrete. On the inside the walls of the rooms are faced with glazed brick dadoes, with buff pressed brick above. The buildings are lighted by electricity, and power cables are also laid on for the electrical machines and accumulators. A large water main is brought into the mechanical workshops for turbine purposes, and a gas main for the various gas engines. On reference to the plan it will be seen that the administrative rooms and lecture rooms are housed in the older portion, while the laboratories and workshops are housed in the new block. In the older block are the museum, which is fitted with cases for geological specimens, the office and directors' room, and the board room, each with separate cloak-room and lavatories. The corridor for students has a separate entrance between the two blocks, and adjoining the students' corridor are lavatories, cloak and common rooms, staff lavatories and lecturers' rooms. This corridor also communicates with a well-equipped electrical lecture room. A covered way leads to the workshops. The mechanical laboratory, the mechanical workshop, and the electrical workshop are each 16 ft. high. They are equipped in the most complete and lavish manner with every kind of machinery used in mining work for experimental purposes. Included in the equipment are a fine turbine, testing machine, gas engines, a Babcock and Wilcox boiler, steam engines, and electric motors. In the electrical laboratory there is a very large switch-board. The whole of the first floor front of the older building is devoted to the drawing offices. The main landing is used for museum purposes, the other rooms comprising preparation and photographic rooms, and chemical, mechanical, and geological lecture rooms, with staff lecturers' private rooms near. There is also a small geological laboratory. The first floor of the new block has a corridor 10 ft. wide, from which are approached the chemical, physical, and mining

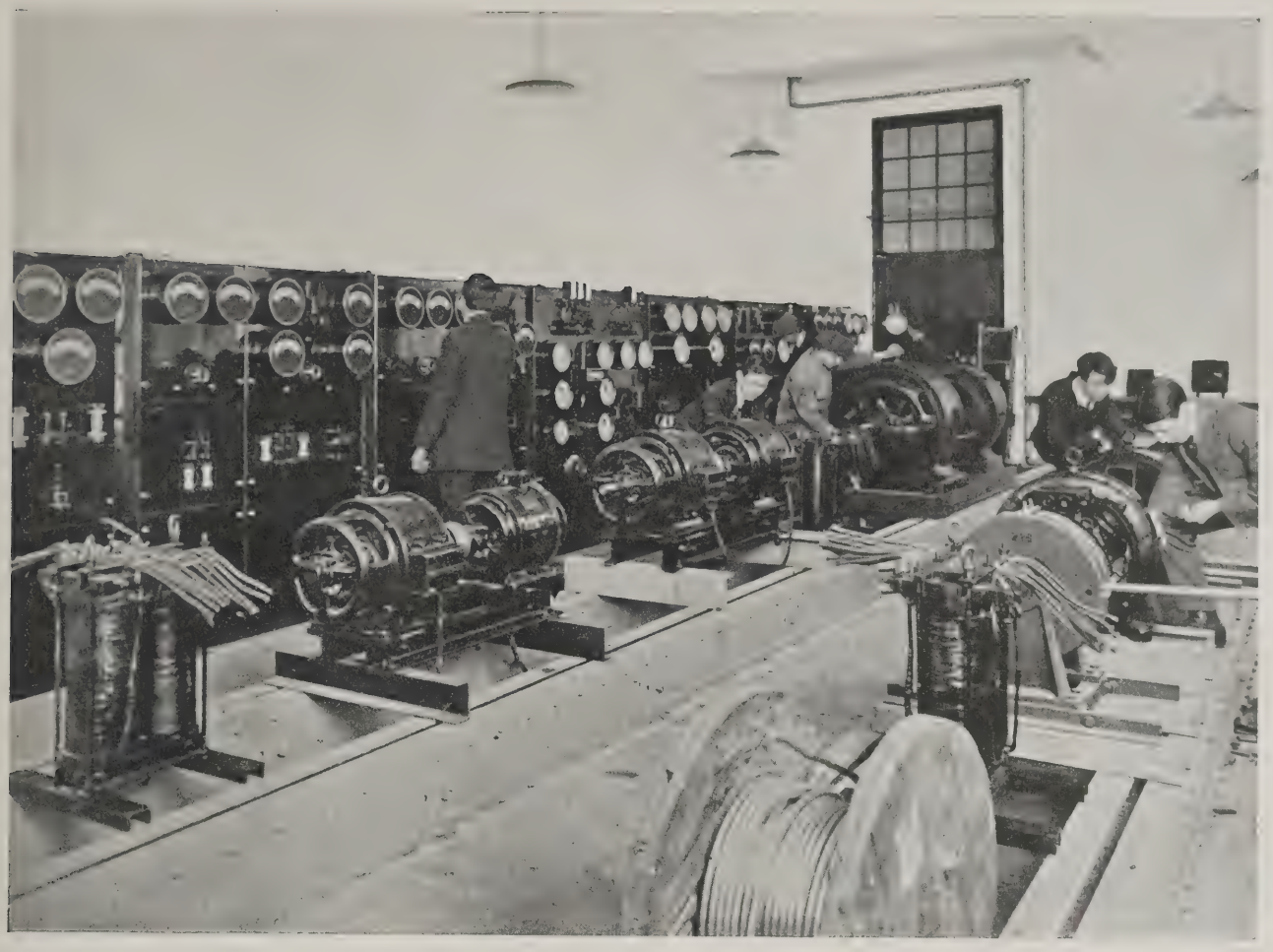


STUDENTS' DRAWINGS (SERIES II.). XXXVI.—DESIGN FOR COMMEMORATIVE COLUMN.

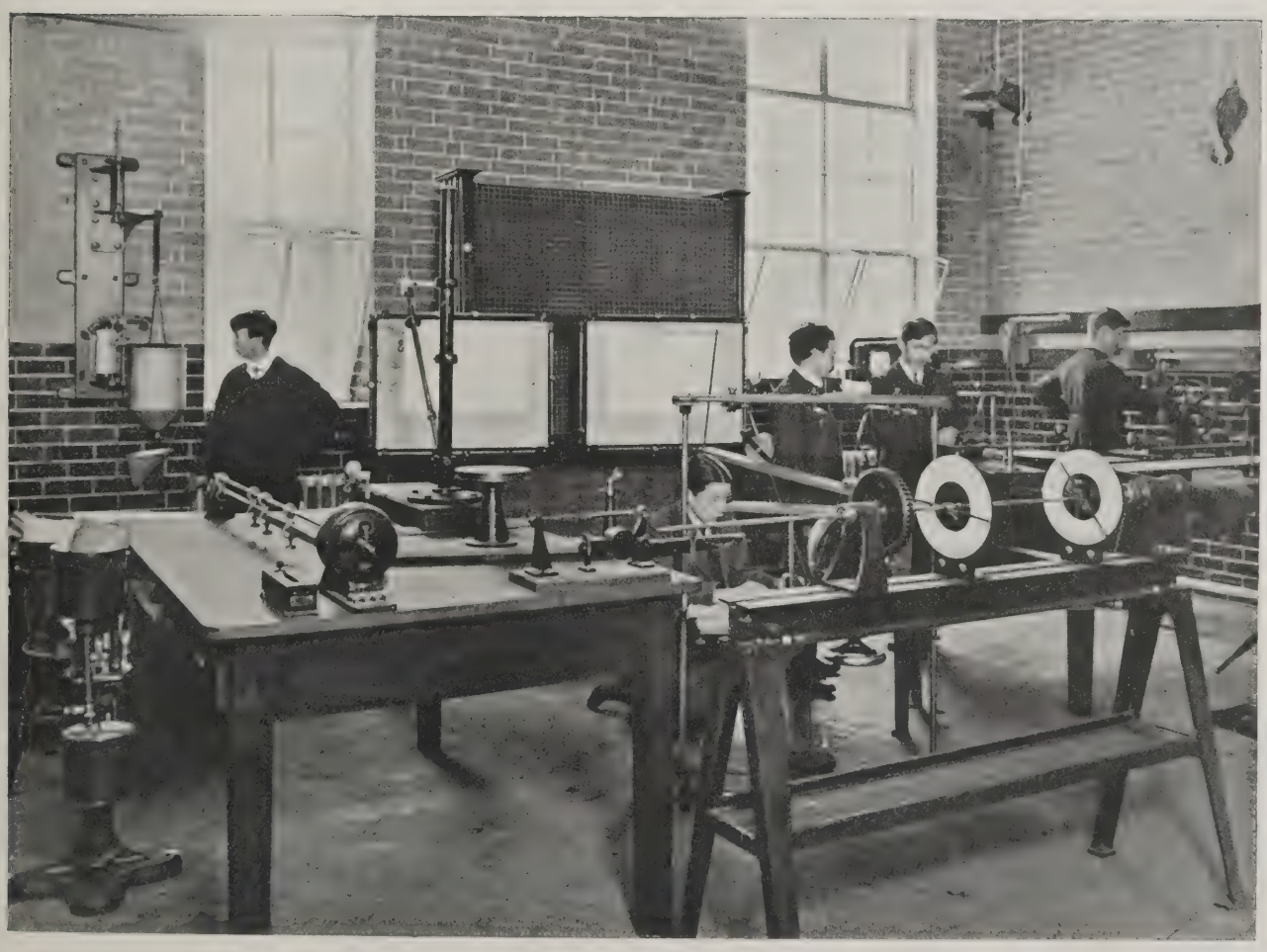
BY ARNOLD P. HODGES.



DOORS AND DOORWAYS. XI.—DOORWAY IN R.I.B.A. COUNCIL ROOM, 9, CONDUIT STREET, LONDON, W.



Electrical Laboratory.



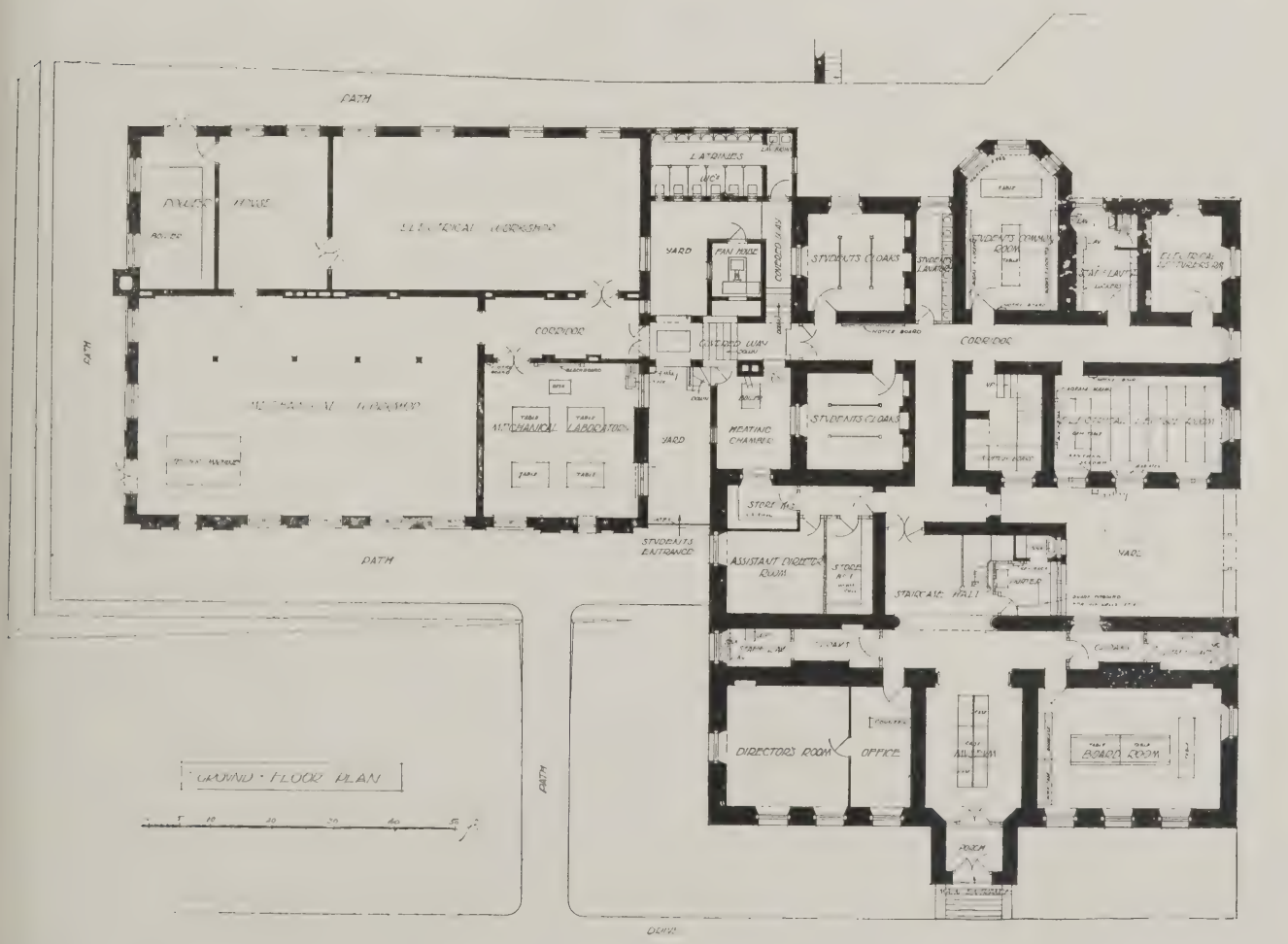
Mechanical Laboratory.

SCIENCE AND TECHNICAL BUILDINGS. XIX.—SOUTH WALES AND MONMOUTHSHIRE SCHOOL OF MINES, TREFOREST.

TEATHER AND WILSON, FF.R.I.B.A., ARCHITECTS.







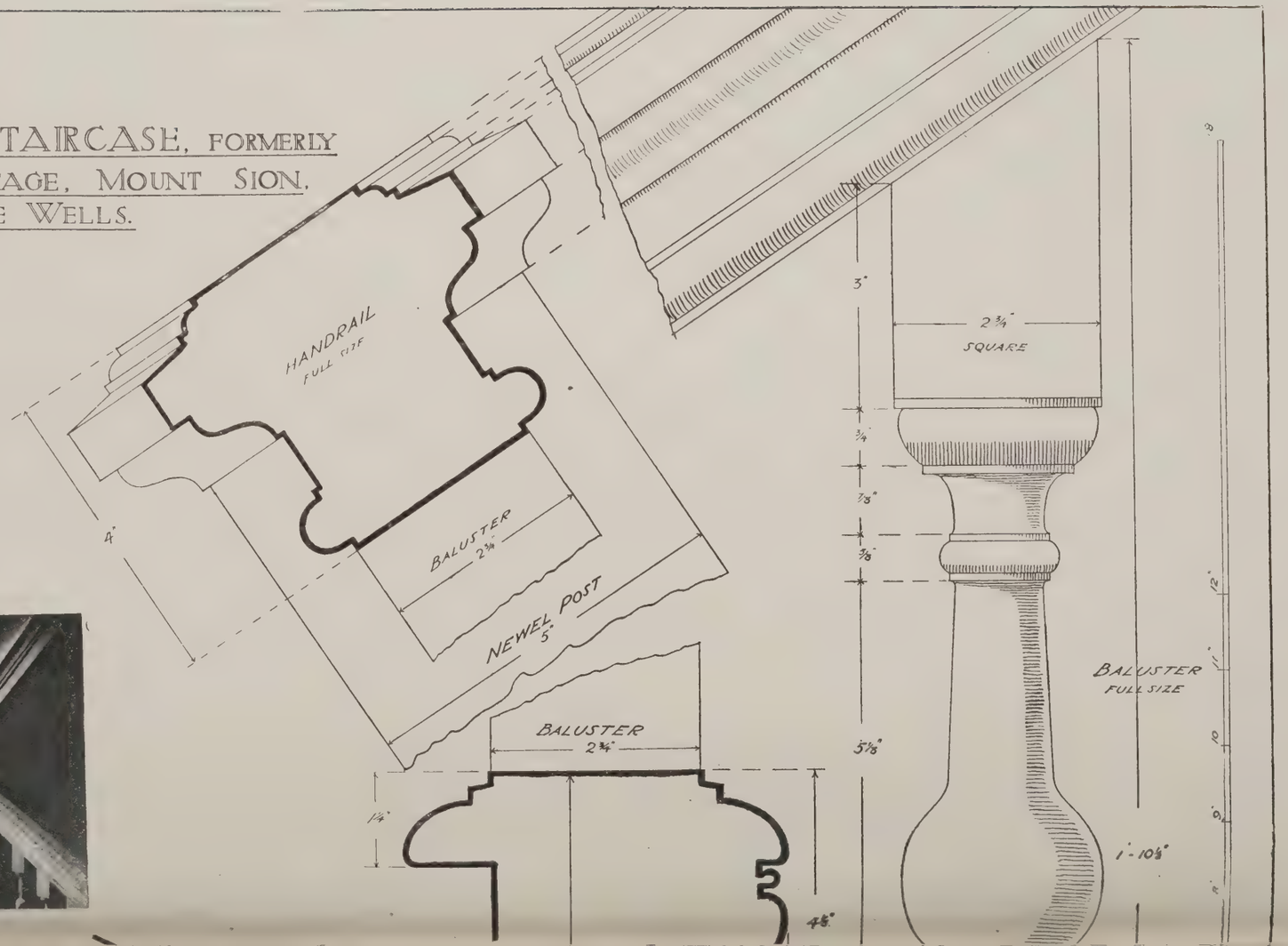
SCIENCE AND TECHNICAL BUILDINGS. XVIII.—SOUTH WALES AND MONMOUTHSHIRE SCHOOL OF MINES, TREFOREST.

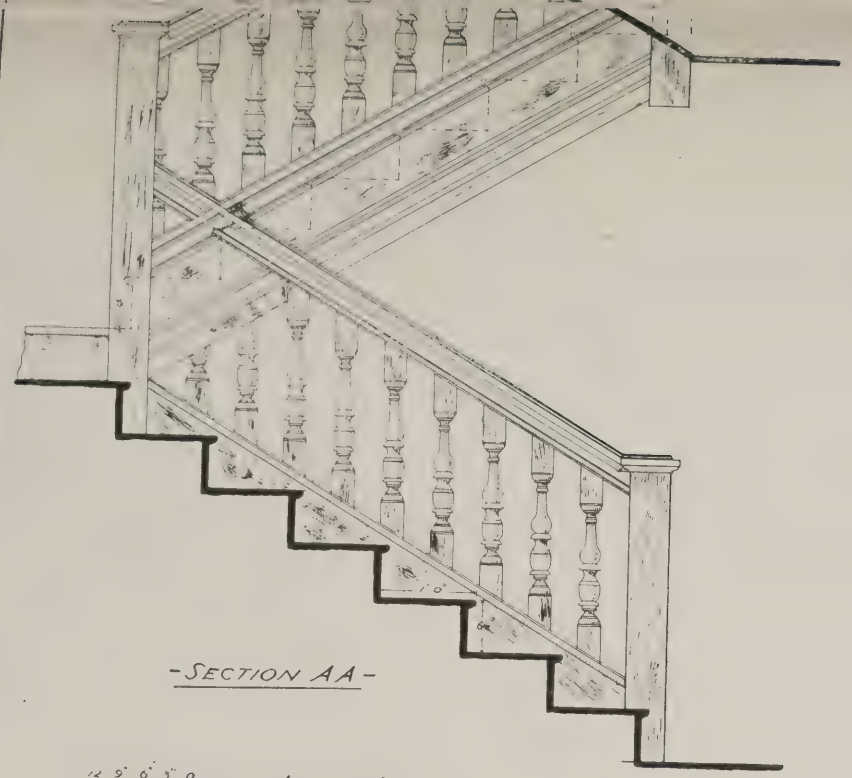
TEATHER AND WILSON, FF.R.I.B.A., ARCHITECTS.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

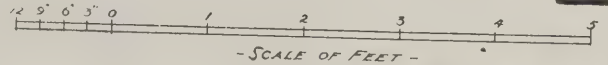
OAK STAIRCASE, FORMERLY AT COTTAGE, MOUNT SION, TUNBRIDGE WELLS.



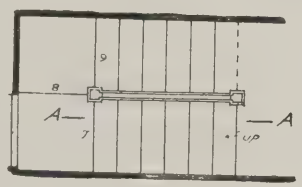




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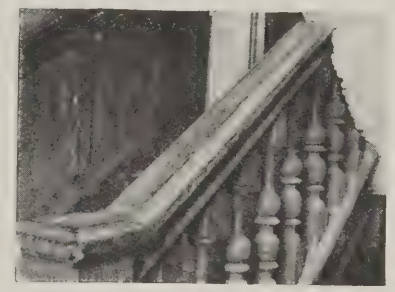
-SCALE OF FEET-



-PLAN-

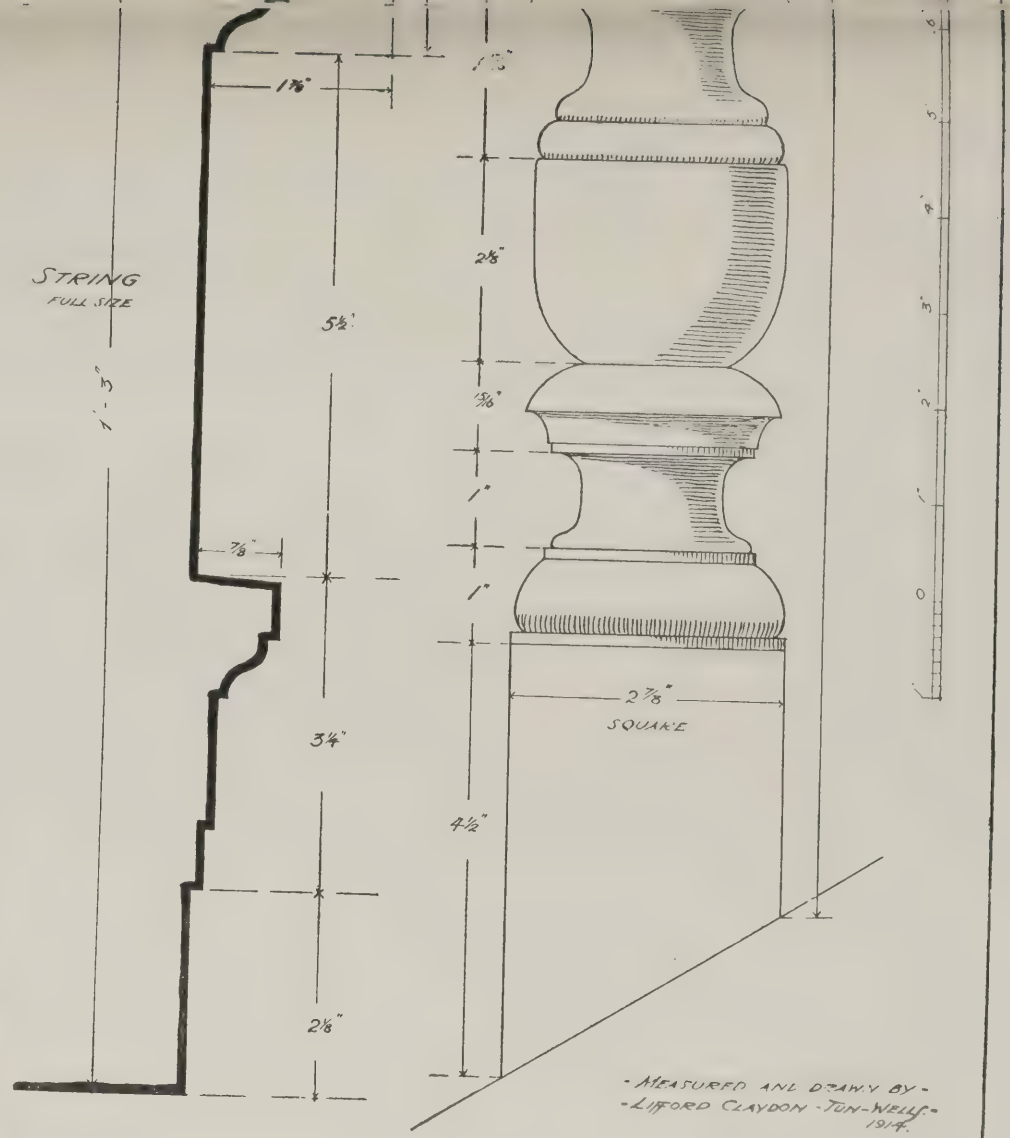


-SCALE OF FEET-



STRING
FULL SIZE

1'-3"



-MEASURED AND DRAWN BY-
-LIFFORD CLAYDON-TUN-WELLS-
1914.

MEASURED DETAILS. I.—OAK STAIRCASE IN HOUSE AT TUNBRIDGE WELLS.

MEASURED AND DRAWN BY LIFFORD CLAYDON.

aboratories. There are also a gas-testing labora-ory, retort room and balance room. The mining ecture room is also situated in this block. The nining laboratory contains a "Sturtevant" fan and ı "Sirocco" fan. In the basement of the older uilding, under the cloak room, are the accumulator nd battery rooms. All the rooms are furnished hroughout in polished oak, and the laboratory and ecture room fittings have been specially designed, mbodying the latest ideas. Each draught chamber nd fume closet is separately ventilated by a small lectric fan. The whole of the work was carried ut under the direction of the architects, Messrs. Teather and Wilson, FF.R.I.B.A., of Cardiff.

An Old Oak Staircase.

This fine oak staircase was discovered in an old ıouse at Tunbridge Wells, which is said to have been he only hostel in the town in the time of Queen Anne, who was frequently entertained there. The ıouse was condemned and pulled down some time ago. The graceful design of the balusters is worthy of attention, and a curious feature is the treatment of the handrail, which cuts right through the string in an unusual manner. The reason for this is not quite obvious, as it does not seem to have been called for by any structural need.

THE BAPTISTERY, VOLTERRA.

THIS building is remarkable as an early example of constructive dichromy, materials of two colours decorating the doorway. This colour effect is necessarily lost in the present reproduction; but the form is even more interesting than the colouring, and the method of coursing the masonry is more arresting than either. Although the Baptistery has been freely ascribed to the late seventh or early eighth century, there can be but little doubt that much of the work is of the thirteenth. The font is by Andrea di Sansovino, and the ciborium by Mino da Fiesole.



THE BAPTISTERY, VOLTERRA, TUSCANY.

NEWS ITEMS.

Memorial Tablet in a Public Library.

A memorial tablet, designed by Sir T. Graham Jackson, R.A., to Mrs. Claudine Paston Brown, one of the foremost social workers in Wimbledon for over twenty years, has been unveiled in Wimbledon Public Library.

Pleasure Gardens Theatre, Folkestone.

Messrs. John Tanner and Son, of London and Liverpool, have been entrusted with the new fibrous plaster modelled ceiling to the auditorium at the Pleasure Gardens Theatre, Folkestone. The architect is Mr. A. Robert Bowles, A.M.I.C.E., M.R.S.I., of Folkestone.

Charitable Builders.

At a meeting of the Glasgow and District Building Trades Infirmaries Collections Committee, the secretary reported that the sum for allocation this year was £492 7s. 9d. This is a decrease of £150 on the amount collected for last year, which is mainly accounted for by the decrease in subscriptions from masons, masons' labourers, bricklayers, and bricklayers' labourers, owing to the present decline in these trades. Since the scheme was instituted in 1887 the allocations amount to about £12,700.

St. Martin's Theatre, Charing Cross.

At the invitation of Mr. B. A. Meyer, a number of his friends assembled at the St. Martin's Theatre last week on a visit of inspection. Builders and decorators have practically finished their work, and shortly the house will be formally handed over to Mr. Charles B. Cochran, the lessee. One of the most striking features is the circular dome, from which secret lighting diffuses a soft and pleasant glow over the entire auditorium. The house will hold 600 persons seated, but there is standing room for about 100 more. Mr. W. G. R. Sprague is the architect.

A Forgotten Tunnel.

A tunnel in Queen Street, Edinburgh, which is almost a hundred years old, was mentioned at a meeting of the Streets and Buildings Committee of Edinburgh Town Council. The reference was occasioned by the necessity for acquiring the tunnel for the purpose of passing electric conduits through it. Originally this tunnel was used by the Royal College of Physicians to pass from their premises in Queen Street to the East Queen Street Gardens. It has not been used for many years, and was only rediscovered by workmen tapping it. The roof of the passage is two feet below the surface of the street, and the floor is about 9 ft. 8 in. below.

Australia House.

The fact that application was made for a music licence for Australia House on October 31 suggests that the big building in the Strand is nearing completion. During the last week or two, in fact, the workmen have been busy taking down the outside scaffolding. It was in 1913 the King laid the foundation-stone—a piece of trachyte—and since then the task of getting the million bricks, the hundred thousand cubic feet of Portland stone, and the eleven hundred tons of Australian marble into position has been obviously formidable. The idea in using Australian marble has been to make Australia House as fully representative of the building products of the Commonwealth as possible. Many varieties of Australian wood have been used in places where they will be conspicuous, and when all the work is finished Australia House will be one of the finest show places in London.

Glasgow's New Fire Station.

Lord Provost Sir Thomas Dunlop has formally opened the new fire station which has been built in the southern district of Glasgow. It is at the corner of Wallace Street and Centre Street, and cost £25,000 to build and equip, and the claim is made that it is the most completely equipped fire station in the United Kingdom. The engine-house has accommodation for four motor fire vehicles, and has automatic folding doors, while in the adjoining watch-room there has been installed the new Siemens fire alarm apparatus, which has cost £1,400. There are houses for thirty-six firemen and their families, and all the buildings in the establishment are lighted by electricity.

Australian Federal Parliament House Competition.

The President of the Royal Institute of British Architects has received a communication, dated October 27, from the office of the High Commissioner for Australia in London intimating that a cablegram has now been received from the Department of Home Affairs, Melbourne, to the effect that the date up to which designs for the above competition may be received has been extended from January 31 to April 30, 1917. Those interested in this competition are advised to read the correspondence which has passed between the Institute, Sir John Burnet, and the promoters of the competition in our issue of November 1, page 205.

Building Restrictions.

At the meeting of the Birkenhead Chamber of Commerce, on November 1, a representative of the building trade said that the National Federation of Building Trade Employers was arranging for a deputation to interview the Minister of Munitions on the subject of building restrictions. It was proposed to form in each associated area a board which would control the whole of the works within its area and be representative of everybody concerned—Ministry, employers, and employed. The builders would undertake that such work would be done cheaper than it could be by the Government or by any contractor under the Government, but they would stipulate that when all the Government work in the area had been completed the restrictions on private enterprise should be removed.

Birmingham Building Trade Dispute.

The demand of the operatives in the Birmingham building trade for an increase in wages is to be referred to arbitration. On October 26 the operatives received the following communication from Sir George Askwith, of the Chief Industrial Commissioner's Department of the Board of Trade: "Dear Sir,—With reference to your letter of October 12 and previous correspondence relative to an application for an increased war bonus made to the Birmingham Building Trades Employers' Association, I have to inform you that the difference is being referred to arbitration, in accordance with the Munitions of War Acts. It is proposed to appoint a single arbitrator (Schedule 1, Clause 1 (b) of the Munitions of War Acts, 1915), who would be able to hear the parties locally, and the name of the arbitrator appointed will be communicated to you in the course of a few days. A similar intimation of the reference of the matter to arbitration is being sent to the Employers' Association. I should be glad if you would inform the various trades concerned of the position, and would meanwhile take steps to ensure that there is no stoppage of work." On August 20 the operatives, at a meeting at Birmingham Smithfield, committed themselves by resolution to arbitration, and the joint committee are advising the various trades involved to suspend notices and continue at work pending a settlement.

The Town-Planning of Greater London.

At University College, Gower Street, W.C., Professor S. D. Adshead, M.A., F.R.I.B.A., is delivering six public lectures on the town-planning of Greater London after the war, illustrated with lantern slides, on Tuesdays, at 5.30 p.m., beginning on November 7, 1916. At the first lecture the chair was taken by Alderman W. Regester, J.P. (chairman of the Middlesex County Council, chairman of the Arterial Road Conference of Local Authorities around London). The chairmen of succeeding lectures will be announced later. Admission is free. Application for tickets, accompanied by a stamped addressed envelope, should be made to the secretary, Mr. Walter W. Seton, M.A., D.Lit.

MR. WALTER LONG ON ARTERIAL ROADS.

At the Local Government Board, on October 31, Mr. Walter Long, accompanied by Mr. Hayes Fisher (Under-Secretary), received a deputation of representatives of local and other bodies interested in the construction of arterial roads. Conferences have been held over a considerable period of time, and a scheme of roads unanimously recommended was laid before the Minister.

Alderman Regester, in introducing the deputation, said they did not ask that money should be expended on that or on any other object save that of the prosecution of the war to a victorious conclusion but England would have a future, and it was to bring about the future construction of these roads that the deputation came before the President.

Sir Aston Webb, representing the Royal Society of British Architects, said that unless the lines of the roads were laid down authoritatively, the numerous town planning schemes around London would be completed without reference to the scheme and the construction of the roads would become impossible in later times.

Mr. Long, in reply, said that they whether in the Government or out of it were now obliged to think solely of the war. Until they could see more daylight with regard to the termination of the war he regarded it as his duty to give all his time and strength to the war, and to let everything else stand on one side. They were all agreed, on broad principles, that it was desirable to have great arterial roads serving the traffic in and out of London made on more common-sense and definite principles than formerly, and that it was urgently necessary that there should be prevision in town-planning schemes. What this really meant in the long run was money. As things were now, it was impossible for the Government to foresee what money would be available after the war. All he could do at present was to ask Sir George Gibb, as head of the Road Board, to examine the scheme of arterial roads at which the conference had arrived. If any public body was to find the money for such a purpose, it was the Road Board.

The Board would report to the Government in due course as to the relative importance of the roads. He was afraid that this did not mean that there was any immediate prospect of the realisation of their hopes. Other things, such as housing, sanitation, and water supply, had been hindered by the war, and he did not hesitate to say that, if he were Minister at that Department at the termination of the war, it would be his duty to advise the Government that their first call on public funds ought to be for the provision of housing for the people, for sanitation, and for water supply, without which housing was of little value.

THE STEAM DISINFECTOR.

The steam disinfector shown by the accompanying illustration is of a type that has been used for many years in connection with the disinfecting of blankets, bed, and body linen in hospitals where patients suffering from infectious diseases are treated. It is also used in poorhouses, especially for dealing with the clothing of vagrants as they arrive, a course of procedure which in most cases is very essential. Since the outbreak of war a large number of these machines of various sizes have been used for disinfecting the clothing of our soldiers as they come from the trenches, and on this account it may be interesting to give a brief description of the machine and the manner in which it deals with and destroys all disease germs and vermin.

The apparatus consists of a cylindrical steel cylinder about 7 ft. long and 3 ft. in diameter, made out of one steel boiler plate, having a double riveted joint with heavy locking bolts at each end. At each end of the cylinder there is a heavy cast-iron door, opening and closing on hinges with rubber joints, so that the cylinder is kept entirely steam and air tight. A galvanised wire cage, also of cylindrical form, and of a size permitting it to go inside the steel cylinder, forms part of the equipment. The articles to be disinfected are placed in this cage, which is pushed inside the cylinder, and the doors are then closed preparatory to steam being turned on. It may here be mentioned that where articles of an infectious character are being dealt with the machine is built on two sides of a division wall, with the cage running through to either end. The infected articles are all kept on one side of the wall and loaded into the machine from that side, and are unloaded from the cage on the other side after the disinfecting process is completed. This obviates any chance of infected and disinfected articles becoming mixed.

The process of operating the machine is particularly interesting. Let it be supposed that the cage has been loaded with blankets taken from the beds of patients suffering from typhoid fever or enteric. First of all it is pushed inside the steel cylinder and the door at each end closed, then live steam is blown into the chamber, with the idea of expelling as much air as possible and creating a partial vacuum. To ensure this result a vacuum cock is then opened and the steam and air still inside the cylinder is sucked out, after which this cock is closed. The cylinder, under partial vacuum (or, in other words, as free from air as possible), is now ready for live steam, which is introduced at a pressure of 10 lb. per sq. in., or a temperature of 240 deg. Fahr.

The principle followed out in this process is this: As each disease germ is surrounded by a protecting air cell, it is necessary to create a vacuum in order to burst this air cell and allow the high-temperature steam to have free access to the germ and destroy it. The writer has witnessed experiments carried out on blankets laden with infectious germs which, prior to being disinfected in the machine, were observed under the microscope to be in a live state, but after being subjected to the vacuum and the roasting under high-temperature steam for a period of twenty to thirty minutes no sign of life was visible. The process destroys all vermin in the same manner as infectious germs, except that the effect on these is naturally quicker, as no vaccum is required to destroy the air cell.

In the manner described a load of soldiers' underwear or uniforms can be disinfected very quickly without any bad effect on the garments themselves. All they require after being taken out of the machine is to be hung up so that any little moisture can be dried off. A. L.



THE STEAM DISINFECTOR.

OBITUARY.

Captain M. J. Rees, M.D.

Captain Morgan James Rees, M.D. (London), R.A.M.C., died on October 30 of wounds received when caring for the wounded on October 22, aged forty-one. The younger son of the late John Rees and Mrs. Rees, of Stepney, he was educated at the City of London School and the University College of Wales, Aberystwith, whence he proceeded to Guy's Hospital, where he filled several house appointments, and ultimately graduated M.D. London in State Medicine. After filling several subordinate positions under the Metropolitan Asylums Board and acting as assistant to the medical officer, Reading, he was appointed as the first full-time medical officer of health for Aberdare in 1906, and in 1911 became a medical inspector to the Local Government Board. At the outbreak of war he volunteered, and proceeded on active service this summer. Several of his reports to the L.G.B. have been published in its series of Medical Reports.

Mr. George Thatcher.

Mr. George Thatcher, who died on October 18, aged seventy-five, was for thirty years master mason at Hampton Court Palace, and during that time had considerable responsibility in carrying out most of the restorations, such as the erection of the large groined ceiling on the West Front Gate, the chapel windows, the re-creation of the Moat, etc. Most of the carved stonework in the coats-of-arms, etc., passed through his hands. He might best be described as a master-craftsman of the old school. Previous to his connection with the Palace, he had charge of important work carried out by the late Mr. Samuel Ruddock. Mr. Thatcher was master of all branches of stone and marble work. He retired three years ago. His son, Mr. A. G. H. Thatcher, is the author of the well-known work on "Scaffolding."

Mr. George Hodges.

The death occurred at Burton-on-Trent, on October 30, of Mr. George Hodges, sixty-eight, who for more than forty years had been in business as a builder. Amongst the more notable works undertaken by his firm were the rebuilding of Rangemore Hall for the late Lord Burton, East Lodge, Doveridge, for Lord Waterpark, and a model village, with over 300 houses and public buildings, for the Staveley Iron Co.

WAR CASUALTIES.

The following casualties are recorded in "The Architectural Association Journal":

Killed.

B. G. Bowles, Sec. Lieut., The Buffs. Killed in action, September, 1916. Lieut. Bowles was a son of Mr. C. W. Bowles, F.R.I.B.A., of Sevenoaks and Staple Inn. E. W. Stubbs, Lance-Cpl., 72nd Sanitary Section R.A.M.C. Killed August, 1916, whilst trying to rescue civilians from houses being demolished by shell-fire. W. A. Stanhope Forbes, Sec. Lieut., Duke of Cornwall's Light Infantry. September, 1916. Philip E. Webb, Sec. Lieut., Royal Engineers. September 25, 1916.

Wounded.

Huddart, R. M. F., Lieut., Royal Engineers. August, 1916. Rahbula, E. A. R., Sec. Lieut., Royal Field Artillery. August, 1916.

Missing.

Kennedy, C. J., Sec. Lieut., Royal Flying Corps. September, 1916.

CONCRETE AND STEEL SECTION

(MONTHLY.)

PNEUMATIC METHODS OF PLACING CONCRETE.

A new method of transporting concrete from the mixer to the point of use has lately come into use and has been pretty thoroughly tested on several important jobs. Compressed air is employed to do the conveying. But the procedure is not so simple that it can be performed without due regard to certain characteristics of concrete and the conveying tube. When these are understood and provided for there is ordinarily no trouble.

Compressed Air.

The pressure of the compressed air is what carries the concrete along. The first thing to consider is the necessity of getting the heavy weight started. A little consideration will perhaps prepare one (says Mr. J. L. Springer, in the "Cement World") to understand that in the new procedure a very strong impulse is employed at the very start. That is to say, with a pipe transmission line 8 in. in diameter and a half-yard batch to send through, the initial pressure will ordinarily be about 85 lb. per square inch. This gets the heavy mass under way. After a very short time, and with the concrete moving along, the pressure will be kept at about 35 lb. or 40 lb. A batch of concrete can be shot through the pipe at the rate of 50 ft. per second—a speed of thirty-odd miles per hour. Compressed air transmission of concrete may be used with pipe lines ranging from 50 ft. to 3,000 ft. long. The diameter of 8 in. seems to be about right to suit present methods.

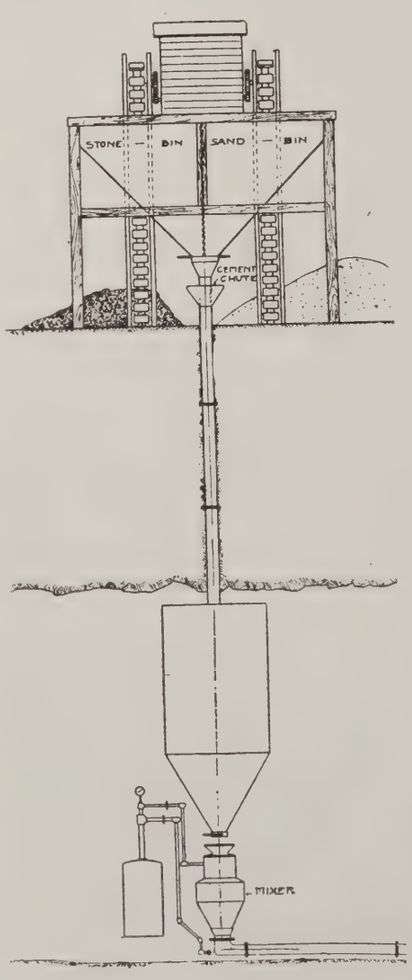
The pipe will not necessarily be cut up by the concrete. In the first place, the concrete is not permitted to quite fill the interior. The pipe should have a smooth interior surface. Ordinary lap-welded steel pipe with flanged joints is quite suitable. Bends may be made, provided they are on a 36-in. radius. Either bent steel tubes may be employed for elbows or built-up elbows consisting of cast-iron sections of 22½ degrees curvature each. The pipe line may run up and down, to right and left—only there must be, of course, some limit to the number and frequency of the curves. Riveted pipe is unsuitable, as the rivet heads present obstructions which the concrete would proceed to wear down. Pipe with smooth interior stands up well.

The Mixing Process.

With this system, the ordinary mixer is eliminated entirely and a kind of pressure tank substituted. The mixing, it appears, is not completed in the tank, but after the materials have actually started for their destination. It is thought that it is pretty well completed, however, in the first 20 ft. or 30 ft. of the pipe line. The mixing process probably continues to a greater or less extent throughout the whole journey.

When the concrete arrives at its destination, it possesses a good forward motion. This suffices to tamp it well into the crevices, and to consolidate the concrete itself. A short space is allowed between the end of the pipe and the point of deposit. This interval permits the compressed air to expand to atmospheric tension. It is understood that concrete alone is packed into the mass. As the concrete comes with a rush it is not difficult to place it overhead or almost anywhere.

Let us now consider the mixing tank. This is not a complicated affair at all. There are no turning parts to effect mixing, the activity of the compressed air being sufficient for that purpose. There is at the top a small hopper, which is not so much a container as a guide. There is a down-swinging door which forms its bottom. Above the hopper is a real hopper, which forms no part of the device, but is simply a rough chamber in which the requisite quantities of rock, sand, and cement are placed with no effort to mix them. When the mixer is not under pressure, the door may be open, giving access to the whole interior of the mixer. The materials are dropped in. They will settle down at once, permissibly filling the mixer up to the bottom of the chamber in which the door moves up and down, and which may be termed the door-chamber. At the bottom the mixer converges to a tube, which bends and runs off horizontally. When the materials have been dropped into the mixer from above, they will in part naturally settle down into this bend. At the back of the bend, right at its turn, provision is made for the controlled entrance of compressed air. There is also provision for compressed air entering above the charge of materials, and below the door when that is in closed position. The closing of the door is effected by compressed air operating against a small piston in a cylinder. This air is transmitted by a special tube of small diameter. A second small-diameter tube connects the door-chamber with a suitable pressure gauge, which enables the actual pressure conditions in the mixer to be known at any moment.



COMPRESSED-AIR PLANT FOR MIXING CONCRETE.

Starting the Pressure.

We will now suppose the materials to have been dropped into the mixer and the proper amount of water to have been fed in with a hose, everything having gone in through the one opening. A cock is turned to admit compressed air to the piston cylinder, and the door is thus closed. A heavy pressure is now set free at the bend in the elbow forming the bottom of the mixer. The effect is partly to start some of the concrete horizontally along the conveying tube, but partly to send a stream of air up against the main load of materials. This stream will force its way through, and there will be evidence of pressure above the materials in a movement of the indicator on the gauge connected with the door-chamber. Assuming 85 lb. for the starting movement and assuming that this movement was quickly checked, the gauge will show perhaps 12 lb. or 13 lb. of pressure. Pressure air will now be admitted directly into the door-chamber, but at a much less pressure than that employed in effecting a start. Thirty-five or forty pounds is about right. The gauge will be carefully watched by the operator, and the cock manipulated to maintain the pressure at just about this stage. If it is allowed to drop much below the concrete will be likely to choke the conveying tube; if the pressure is permitted to rise much higher, there will be an unnecessary waste of pressure air. The operator's duty is, from now on, a very simple one, and consists principally in keeping his eye on the gauge and managing the pressure air at a pretty constant pressure.

It seems that the pressure required to convey concrete along the pipe is the same whether the pipe is long or short. Doubtless, when considerable experience is gathered with other diameters of conveying tubes, it will be found that the required pressure will vary with the diameter.

Compressors and Mixers.

The amount of water appears to play a substantial part. Dry concrete can, in fact, be conveyed. With 8-in. tubes and elbows on 36-in. radii, there appears to be no difficulty in using concrete in which the coarse aggregate has a maximum diameter of 2 in. Occasional larger pieces give no trouble, ordinarily. Uniformity in size of the coarse aggregate seems to promote ease of conveying, whether the material be crushed stone or gravel. As to the fine aggregate—the less loam and other material of a slick character, the better the transmission.

The mixers are of two sizes—those receiving ¾ cubic yard of materials, and those receiving ½ cubic yard. Naturally the amount of pressure air required will vary with the distance of transmissio

or the larger mixer, 1,000 ft. is the limit economical movement. A compressor pable of compressing 1,200 cubic feet of e air per minute will, it is said, supply ough pressure air to convey 8 cubic rds of concrete per hour. The same mpressor will handle fifty cubic yards—times as much—in the same time, if pipe line is cut down to 100 ft. A aller compressor will not only have a s maximum radius of action, but will hin that radius operate less economidly. Thus, a compressor which comsses 600 cubic feet of free air per minute ne-half the capacity of the larger one d—will have a limit of about 400 ft. its transmitting capacity, and at this tance it will handle only one-third the ount of concrete as compared with the ger machine. At any rate, the general appears to favour the larger comssor. Whatever exceptions there are m to correspond with rather short disces of transmission. At such distances may be that the smaller machine will k more advantageously. It is interest to note that the diameter of the pipe affects the amount of air required. er things being equal the smaller the e the less pressure air is needed. Now necessary diameter of the tube in turn ends upon the size of the coarse aggre—big aggregate requires big diameter ipe.

Where the distances of transmission will ergo considerable changes, it may be l to install two compressors, one of, 800 cubic feet capacity per minute the other of, say, 450 cubic feet. The ller machine may then be employed on short transmissions and the larger hine or the two combined on the long ances. Where only one compressor is e installed the 600-ft. machine will be aps the minimum size for effective k with the ½-yd. mixer. With the ¼-yd. er, compressors as small as the 350-ft. may be used. In the foregoing, the al compressor capacities—and not the retical ones—are to be assumed.

Adapted for Sewers and Tunnels.

little consideration will make it underdable that the pneumatic method is icularly suited to tunnel and sewer k. The small amount of space red to provide for transmission is an cial advantage. We have merely to ide for a pipe line. We may choose ocation of the mixing. Of course, it visable to lessen the distance of transion, because such reduction means omy in pressure air. On the other l, we may, if conditons require it, put mixing arrangements outside the el or sewer. Thus, the mixer may be ed above the excavation, now at one , and now at another. The transion tube may be put down a bore hole then connected with a horizontal line pe. Or, if there is room below and otherwise convenient, the materials be dropped down the small vertical

This latter procedure was found suitable ncreting a big sewer in a large city. the excavation lay some 80 ft. below general surface. A station for the bling of batches of dry materials l be selected on the surface, and a 8 in. or 10 in. in diameter would be lown to the sewer. At the surface ble pits for the feet of elevators were ged for the coarse and fine aggre-These materials were dumped in respective pits and then raised by the ors and discharged into bins. From ins the two materials could be discharged under control into a hopper located over the vertical hole. Below, in the sewer, a second hopper was set up above the mixer. This hopper served as an intermediate reservoir between the hopper at the surface and the mixer below, and prevented the latter from unexpected service. From the mixer station below the transmission could be effected horizontally for 950 ft. in two directions, making a total of 1,000 ft. for one surface station.

This sewer has a diameter of perhaps 15 ft. and in transverse section has the outline of an inverted U. It is some 18,000 ft. in length. The concrete employed is understood to have been made on the formula 1:3:5. The stone was of the 2 in. size. The average thickness of the lining is perhaps 18 in. Ordinary steel pipe was used for the straight sections. It stood up well under the flow of material within it. It is understood that it was found possible to transmit some 18,000 or 20,000 cubic yards of concrete without necessitating a renewal of the pipe. The diameter employed was 8 in. inside. The concreting of the sidewalls and overhead arch was done with the aid of collapsible steel forms with which 40 ft. of sewer could be lined at a setting. With such forms it is ordinarily possible to be concreting with some, while others are being moved to new positions and there prepared for the concrete. Accordingly, with five sets, actual concreting could go along at a clipping pace. However, this would make a heavy demand upon the means of transmitting the concrete. Nineteen of the 40-foot sections were concreted in fourteen ten-hour shifts. As the concrete was put on to the substantial thickness of 18 in. already mentioned, there was a first-rate test of the pneumatic system in keeping forms supplied.

Against the cost of transmission should be set the economy arising out of the automatic tamping. Ordinary recesses and crevices will be filled as a matter of course.

The engineers of a United States railway devised a special car to be used in connection with pneumatic mixing and placing of concrete in the lining of a tunnel on their line.

Special Car for Concreting.

The tunnel is 1½ miles long. The strata through which it passes consist in part of slate and shale, and in part of badly seamed and broken sandstone. It was deemed advisable to line the tunnel without delay. It was also desired to place the 50,000 or 60,000 cubic yards of lining without putting a stop to the passage of trains.

With a stationary mixer at either portal, the average haul to be accomplished by a concrete car would have been about three-eighths of a mile. This would have meant delay and expense. A compact, self-propelled mixer was the outcome of the conditions to be met.

A steel car 40 ft. long, 10.38 ft. wide, and standing 17.75 ft. above the rails, was constructed. The adoption of steel probably resulted in a much lighter car than if wood had been selected. Naturally, the sand, stone, and water are carried at some height above the rails, so that strength of construction is an essential. Amidships of the car, a chamber open on either side is provided for the mixer and the charging skip. This chamber occupies what for convenience may be called the lower storey of the car. Immediately overhead is placed the water compartment, formed by dividing the upper storey, transversely, by steel bulkheads. An X-brace on either side provides for resistance to the hydraulic pressure. The capacity of the tank is 1,850 gallons.

To the front and to the back of the tank are placed the stone and sand bins. These are provided with inclined bottoms sloping down towards the centre of the car and extending down into the first storey. Suitable chutes extending into the open chamber on one side of the car provide for discharge into the charging skip. The mixture is located on the same level on the other side of the car.

The motive power is supplied by a gasoline engine. This was located beneath the sloping floor of the sand bin. At the other end of the car, beneath the stone bin, is placed an air receiver, a tank used to contain a supply of compressed air. Its capacity is 96 cub. ft. There was a certain amount of free space here beneath the stone bin. This provides dry storage room for cement in bags.

When the charging skip is standing on the floor ready to receive the materials, its top is 15 in. above the floor level. Guide rails provide for its movement up and across the car to a position over the mixer. This movement is effected by compressed air operating in a cylinder 9¼ in. in diameter. The guide rails are T-bars, 40 lb. to the yard. The skip is provided with a discharge gate which is tripped automatically by a guide rail.

Arrangement of Discharge Pipe.

The mixer has a capacity of about 2-5 cub. yd., corresponding to two bags of cement. At its bottom is an 8-in. discharge pipe which carries the concrete horizontally and then vertically to a point near the top of the rear of the car. At this point the discharge pipe divides into two branches. One branch is used when the concrete is to be shot into the foundation or side wall, the other when its destination is the arch. This arrangement is a patented device. It includes a sliding plate, by whose means the concrete may be controlled in its movement into either branch.

Along one side of the car are arranged running boards 2 ft. wide. These may be folded up against the side of the car when not in use. They provide a footway for the men going from one part of the car to another, particularly when moving cement from storage to mixing compartment.

The gasoline engine which supplies the power for locomotion is a six-cylinder, four-cycle, T-head machine, and has a horse-power rating of 200 when running at 350 r.p.m. The speed of the engine may be throttled down to 125 r.p.m. This motor with its frame constitutes an integral part of the car, forming, in fact, one of the trucks. Power is transmitted by a chain to one of the axles. A specially designed friction clutch provides for control. The car may be moved with considerable rapidity, a speed as high as 25 miles per hour having been attained.

When the car was in need of more material it was run out of the tunnel to a special loading trestle. Arrived beneath this trestle, any one or all of the four items—water, sand, stone, cement—could be delivered by gravity. The cement went on board in bags along a chute. Undercut gates provided for the delivery of sand and stone.

The compressed air supply for the car was obtained from a 4-in. air main running through the tunnel. By means of a 3-in. hose, 12 yd. long, the air receiver on the first car could be supplied from the air main. When this apparatus was first put into actual commission, the men operating

it were naturally not expert at handling it to the best advantage. Nevertheless, in the first week (six days), 261 cub. yd. were placed by its means. During the fourth week after this about 3½ times the quantity (928 cub. yd.) was placed. A record of 201 cub. yd. was made in a single day. The fact that the tunnel was being used by trains while the concreting was going on complicates matters and obscures to some extent the actual merit of the performance.

The storage trestle has a track beneath it for the locomotive mixer car. There is another track over its deck. The twenty-seven bins of the trestle provide storage for 324 cub. yd. of material. As five loaded cars may stand on the deck track, the available storage is increased by this means to a total of more than 500 cub. yd.

The gasoline mixer car is preferable in tunnel work to a locomotive operated by steam because of the elimination of smoke. Of course, electric motors would cover this same point.

The inventor of the pneumatic system used here and elsewhere on long and short transmission lines is Mr. J. H. Graham.

Placing Concrete with Live Steam.

Another recent system in transmitting and placing concrete is that which depends upon the pressure of live steam. This method deals with a further thing. That is to say, the fresh concrete is warmed up distinctly in the process. Now the setting of concrete is largely a chemical process, so that when one considers how heat promotes most chemical reaction he is prepared to learn that the claim is made for the steam process of conveying that it is distinctly beneficial to the quality of the resulting concrete.

Steam is employed to drive concrete through a pipe line and so effect the placing. The concrete comes out at the end with a rush so that it is possible, if desired, to discharge the concrete in a strong jet. Off hand, one might expect this system to be rather expensive. Actual experience has shown, however, that for a distance between 300 ft. and 400 ft. the cost for mixing and placing, including labour, can be done for 26 to 32 cents. per cub. yd. Fuel for the steam plant is counted in with this cost.

Concrete can be conveyed by this method through 2-in. and 3-in. pipe lines, provided the coarse aggregate in the one case is limited to 1-in. size and in the other to 1½-in. In using such small pipe, it is very advisable that no large pieces of stone or other hard material get into the concrete, even though these exceptional pieces should be few in number. There should be absolutely none of them. Crushed stone or rock should not go into the concrete unless it has actually gone through the meshes of a rigid screen having the proper size of openings.

There seems to be no difficulty in forcing the concrete along, nor is there any undue wear of the interior surface when the special tubing designed for the purpose is employed. At first rubber tubing was employed. But this seems now to be not so well adapted, the possible cause being a deterioration in the grade of rubber obtainable at a reasonable price. A special coating is now applied to the interior of the pipe. The concrete slips along through this tubing without difficulty, so the writer understands.

The steam in contact with the concrete must be protected against much loss of temperature. Otherwise, we are likely to get more or less condensation with the consequent loss of pressure. Accordingly, it is not enough to use simple, bare pipes, especially where the transmission is for a considerable distance. This matter is being taken care of by the inventor of the system in the following way. The coated pipe is covered with a thick envelope of magnesia, or other non-conductor of heat, and a spiral sheet tubing put about the magnesia. This exterior metal covering may be galvanised. Each length—measuring, say, 23 ft.—is then provided with three chairs. These are devices which provide a means of lifting the pipe by hand from above and a means of holding it a little above the ground when at rest. They also provide a simple means of securing mutual agreement in alignment of a group of pipe lengths. The joints are made by using a sleeve which goes over both ends and which may be secured quickly in place with the use of a bar and without the use of a wrench. A U-bolt forms part of the device. Ordinarily, the coupling arrangements are sufficiently flexible to permit a 15-deg. variation in alignment from pipe length to pipe length.

Preferably, superheated steam is used. Often it will be unnecessary to use elaborate methods of heating the steam. The simple procedure of passing the pipes back and forth at a point where they can be subjected to gases of combustion will frequently be all that is necessary.

Mixing and Propelling.

The operation of the mixing and propelling apparatus is about as follows: All materials, including water, are put into the mixing chamber and the door is closed. steam is then turned on, with the result that a paddle device is turned which mechanically performs the mixing. Steam is admitted into the mixing chamber during the mixing process. When the materials have been sufficiently churned steam is admitted into another compartment, the atomising chamber. The steam admitted presses out through the discharge line, clearing the tube preparatory to the coming of the freshly mixed concrete and heating it up as well. The steam pressures in the mixing and atomising chambers are different, at least at this stage. In the mixing chamber the steam admitted will have a pressure of perhaps 80 lb. per sq. in., and a temperature corresponding to 50 deg. superheat. In the atomising chamber, on the contrary, the steam pressure will be markedly less, say 30 lb. per sq. in. This steam is also superheated. Accordingly, when the valve connecting the two chambers is opened, the superior pressure in the one operates to drive the concrete into the other, assisted by the action of the paddle device. The concrete will now be atomised—that is, divided into small particles—and forced into the transmission line. The pressure of the steam will in the meantime probably have become about 40 lb. per sq. in. When discharged the concrete is in the form of a kind of spray which consolidates when placed in position.

It is very necessary that the steam which is doing the propelling work through the transmission line shall not condense and so lose its power of exerting pressure. This has already been suggested when mentioning the provisions against the escape of heat. The superheating is a further provision with the same object in view.

The steam method of placing concrete was employed on some Mississippi levee work. The bank had a slope of 1 on 2, and it was desired to protect it by a covering of concrete. The concrete was put
2 in. thick in squares 25 ft. on a sid
About half of such a square extend
above and half below the high water lev
The mixture employed had proportio
given by the formula 1:3:2. A coati
was added to the bank for a distance alo
the river of perhaps 1,200 ft. No reinfo
ing was employed. No provision was ma
for securing the concrete to the slopi
bank other than what would natura
occur.

Some Typical Examples.

Recently, the steam method was used
connection with the relining of an
tunnel half a mile long. The tunnel pe
trates soft material and was originally p
tected against collapse by a timber lini
Thirty years ago a second lining was
inside the original one. This consis
of semi-vitrified brick. The space betw
the two linings was not thoroug
packed. A good deal of water presse
developed back of the brick lining, wh
resulted in constant leakage and a g
deal of freezing into ice in the winter.
brick lining suffered a great deal becaus
the activities to which it was subjected.
short, the lining became very unrelia
especially in the arch. It was doub
whether this brick lining could be
well replaced because of the character
the strata through which the tun
passed. The addition of another lir
within the old would have reduced the
of the tunnel too much. It was decide
add a concrete coating by means of
steam atomiser.

It was desirable to perform the w
without interrupting the use of the tu
for traffic. A construction train was
vided which consisted of a locomo
caboose, and three intervening cars.
the locomotive was placed a flat
which accommodated the mixer on its
ward end, where it could be convenie
served with steam. By means of a re
ing valve steam was supplied at 9
Materials for the concrete were store
the remainder of the car. A second
car came next. It was rigged to facil
the actual application of the concre
the brickwork of the old lining. He
platform 20 ft. long was arranged
above the car floor. On the platfo
track provided for the movement back
forth of a carriage carrying the disch
nozzle. The carriage could be m
10 ft. The nozzle consisted of a pie
wrought iron pipe. To it was attach
piece of reinforced rubber hose, which
nected at its other end with the mai
charge line running from the mixer, v
was laid along one side of the car.
nozzle was arranged to rotate on a
zontal axis lying in the vertical
passing through the longitudinal centr
of the car. By these means a conside
arc could be commanded with every
tion of the carriage. As the carriage
could be moved 10 ft. horizontally,
ment of a band 10 ft. long could be
with without moving the train. The
tion of the framework to which the
was attached was effected by a small
engine. A windlass and rope operat
hand provided for the carriage move
And the locomotive shifted the whol
fit. With this equipment, a strip o
crete 262 ft. long and 11 ft. wide
placed in six hours. The amou
cement consumed was thirty-five bag
the concrete mixture corresponded
formula 1:3:2. The entire job
carried through in forty-one days at
cost of $4,600. Of this, $1,700 we
rental of the machine and for expert



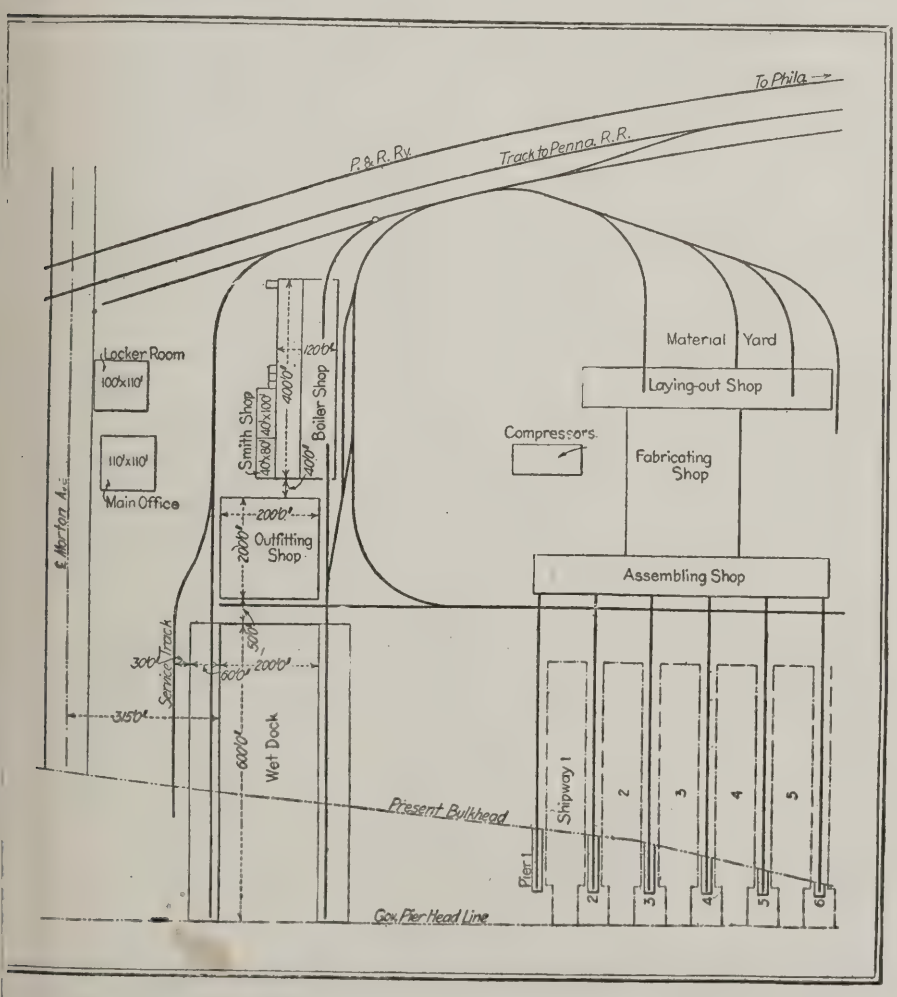
REINFORCED CONCRETE SHIPWAYS IN COURSE OF CONSTRUCTION ON THE DELAWARE RIVER, U.S.A.

sion. The remainder was expended on pour, repairs, materials, the work train, d expense of plant.

The way the concrete behaves at the beginning of its application is curious. The nd blows away for a time—until enough ment has been applied to secure its hesion. Then the pebbles refuse to stay til sand and cement have prepared a fficient thickness of mortar. However, is judged that even the sand and pebbles at bounce off at the beginning perform a eful service by pounding the first layer y thoroughly on to the surface to which is desired to attach the layer of concrete.

A similar job to that of coating this old ck lining was carried out not long ago connection with an old canal beneath ich were two stone-lined water conduits ich supplied a big flour mill. The nels were about 5 ft. high. So ancient was the lining that the mortar had pretty well disappeared from the crevices between the stones. The job of filling the spaces and making a smooth coating with concrete would have been rather difficult by ordinary methods. The atomiser proved equal to the task, however. The first operation was to clean the irregular surface by means of a jet of steam and hot water. This the atomiser supplied. The concrete was then applied by means of a spraved stream. Very small pebbles were employed here for the coarse aggregate, and performed the admirable function of packing the concrete into the crevices.

[This system, as well as that in which the effective agent is known as "the cement gun," is obviously a development of the idea of the grouting machine, in which compressed air has been successfully employed.]



DIAGRAMMATIC PLAN SHOWING LAY-OUT OF SHIPWAYS, BUILDINGS, ETC.

REINFORCED CONCRETE SHIPWAYS.

After extensive study of shipbuilding establishments in Europe, the main building of the Sun Shipbuilding Company's new plant on the Delaware River at Chester, Pa., has been designed as a large H in plan in order to ensure the most effective and direct movement of the materials from the stock-yard where received by rail on spur tracks connecting with the Pennsylvania and the Philadelphia and Reading railroads to the finished steamer in the river. The cross-bar of the H is the wide fabricating shop equipped with electrically operated rollers instead of cranes to provide continuous movement of the material. Next to the stock-yard on the north is the two-storey part of the building, the lay-out shop in the first floor and the mould loft in the second floor. At the other end of the fabricating shop, next to the river, is the assembling shop, a one-storey building, with a high crane runway for handling large sections of the hulls or ship frame work. Crane runways nearly 100 ft. high and spanning 125 ft. then transfer the fabricated parts to the five reinforced-concrete shipways where the hulls are assembled preparatory to launching. After launching the ships are placed in a 200 ft. by 600 ft. wet dock, near which the boiler shop and the outfitting shop are located.

Three standard types of freight ships will be built, with the idea of ensuring rapid production, hence effective lay-out and handling facilities are especially necessary. It is expected that at least fifteen standard 10,000-ton steamers per year can be fabricated, and with improved organisation a possible capacity of twenty steamers per year is contemplated. This means that about 5,000 tons of steel must be taken into the plant and fabricated into a ship each month.

General Lay-out of Plant.

The Philadelphia and Reading Railway tracks bound the eighty-acre site on the north, while the Pennsylvania Railroad will construct a spur crossing over the Reading and connecting to the tracks indicated on the plan. The material transported to the plant is delivered to the material yard, the boiler shop, the wet dock, or the assembling shop and shipways, as desired.

The laying-out shop, the north side of the H, is 80 ft. by 500 ft. in plan, two storeys high, the first floor being used for the lay-out shop and the second floor for the mould loft. As seen in one of the

photographs, the main building is a steel-frame structure of Bethlehem H-columns, with flat roof and monitors. Ample light, so essential in a building of this type, is provided by steel sash in side walls and monitors. The fabricating shop, 300 ft. by 225 ft. in plan, connects the parallel end buildings. Long-span triangular trusses in the sides of the latter carry the roof and crane loads to allow columns to be omitted and thus ensure free passage between the parts of the building. By omitting the interior columns in every other bay and carrying the roof framing on longitudinal trusses in the fabricating shop, or cross-bar of the H, the desired larger working spaces were obtained. The south side of the H, nearer the river, is the assembly shop, 80 ft. by 600 ft. in plan, where parts of large size can be handled and thence transferred to the shipways. Electric travelling cranes serve both the laying-out and the assembling shop.

The shipways are constructed of reinforced-concrete columns and beams with concrete pile foundations at the inshore end and of timber deck and piles at the river end. After launching down these ways the ships are equipped in the adjacent wet dock, which accommodates two vessels, with room for a third at the outer end.

The boiler shop, 120 ft. by 430 ft. in plan, and the outfitting shop are located near the wet dock and connected by track facilities to both sides of the wet dock, as indicated on the plan. The company has bought the engine-building plant of Robert Wetherill and Co., Inc., just across the railroad on the north, from which engines will be transported by railroad to the ships. Electrical power is to be used throughout, and a powerhouse with four 2,500 ft. air compressors is located near the fabricating shop.

The total cost of the plant is estimated at $4,000,000. Construction of the concrete-pile foundation walls and concrete piers, which were found necessary in the soft soil encountered, began on June 22, and the erection of the steel work started June 30. The buildings are rapidly approaching completion, and it was expected that by November the plant would begin active operations. The Raymond Concrete Pile Company, of New York City, designed the foundations and the shipways, and the Belmont Iron Works, of Philadelphia, and Lewis H. Shoemaker and Co., of New York City, designed, fabricated, and erected the steelwork of all the buildings and runways. The foregoing information was furnished to the "Engineering Record of New York" by J. N. Pew, jun., vice-president of the Sun Shipbuilding Co.

Reinforced Brickwork.

M. C. Rabut, 14, Rue de l'Abbé de l'Epée, Paris, has applied for a patent for a system in which concrete bricks or slabs are reinforced by gratings formed of hoop-iron interlaced and riveted or hooked together at the edge. The slabs may be of flat rectangular or segmental shape, or curved, or wedge-shaped, or of hollow-box form with or without partitions, the grating being bent to correspond. Thick bricks may be reinforced by two gratings. Metallic fastenings, such as studs keys, bolts, or spikes, may project from flanges, grooves, holes, recesses, or projections formed on or in the bricks to bind them together; the bricks may be staggered in adjacent courses; and the gratings described above may be placed in the bed joints.

LEGAL.

Rights to Determine a Contract.

Metropolitan Water Board v. Dick, Kerr, and Co.

October 18. King's Bench Division. Before Mr. Justice Bray.

His lordship delivered his reserved judgment in this case, which raised an important point under the Defence of the Realm Act.

His lordship, in giving judgment, said this was an action by the Metropolitan Water Board against Messrs. Dick, Kerr, and Co., the well-known contractors, for a declaration that a certain contract for the construction of two reservoirs at Staines dated July, 1914, and as modified by a supplemental contract of 1915, was still in existence and binding on the defendants. Plaintiffs also sought a declaration that they were entitled to certain plant, tools, and materials brought upon the site by the defendants. Alternatively, the plaintiffs sought damages and an injunction. Defendants, in reply, claimed that by a notice from the Ministry of Munitions they were required to cease work, and that the performance of the contract was impossible and illegal and had ceased to exist as a binding contract. The total price of the contract was some £673,000. Work commenced on August 6, 1914, and a large quantity of plant was brought on to the site by the defendants. Upon the receipt of the letter from the Ministry of Munitions the work at the reservoirs practically ceased. Defendants removed and sold large quantities of plant and set up that the contract had been determined. Then this action was brought. Under these circumstances, therefore, his lordship had to examine the nature and express conditions of the contract. The work had to be completed within six years of commencement. The contract was entered into before the war. The first question was whether the objects of the contract were frustrated. That was a matter of fact. Delay would not frustrate the object of the contract. The contract was not impossible of performance, and it was clear that the defendants completely failed to bring this within the proviso of commercial impracticability of performance. He granted the plaintiffs a declaration that the contract was not determined and held that they were entitled to an injunction. He found that the defendants were not liable to pay the proceeds of the sale of the plant to the plaintiffs. On the whole he entered judgment for the plaintiffs.

Contravention of Bye-Laws.

At Bristol Police Court, on October 27, a builder was summoned for not complying with the Bristol Building Bye-laws. Mr. A. J. White (from the office of the Town Clerk) was for the prosecution, and Mr. G. C. Rallison defended. The circumstances of the case, as narrated by Mr. White, are these. Defendant purchased some property which was formerly used as a club, the members of which were accommodated in an extension of the building, access to which was gained through the dwelling-house. Soon after the purchase defendant began to convert the extension into a separate dwelling-house. When the work was in progress he was informed that he must submit plans of the intended alterations. He failed to do so, and when warned again he is alleged to have said he would not submit plans. Every effort was made to get defendant to comply with the regulations, but as he failed to do so a summor was issued against him. Since it had bee served plans had been submitted. Th defence was that the defendant did n think that the building came within th bye-laws. There were two charges, an the bench imposed a fine of 20s. in eac case—40s.

THE PROSPECTIVE TRADE BOOM

"Personally, I think there will be ver little unemployment at the close of th war," was the opinion given to a "Star representative by a man well able to gaug the probable position of affairs. "I ha come to the conclusion that those who pr dict a boom in trade are right in the calculations. There may be some temp rary dislocation, due to the change in th workshops from war to a peace footin but this will be very short indeed, and w be eased by unemployment insurance munition workers and a gradual demobi sation of our military forces that w obviate any glut in the labour market. good deal, of course, will depend upon sufficiency of shipping facilities, at freigh which are not exorbitant, for the carria and development of our export and impo trade. I believe our commercial men a keenly alive to this question, and that th engaged in shipbuilding need fear no la of employment. If any trade depressi comes about at all, it will most likely occ about three or four years after the conc sion of peace, when possibly the worl depleted stocks of merchandise may ha been replenished. This eventuality, course, will depend very much upon t pace of the world's productive plant a machinery of distribution—whether, fact, they are equal to the task of maki good the war's ravages on capital.

"The recuperative power of the worl undoubtedly greater to-day than it e was, and our own power in this respect n be gauged from the enormous plant have accumulated during the war. In opinion it will take the Central Power longer time to recuperate than the Allie

"You may take it from me that the qu tions of trade recovery and employment being seriously considered, and that wh the time comes this country will be wel the fore. There is, as you know, a Rec struction Committee, of which the Pr Minister is Chairman, and which, thro numerous sub-committees, is dealing w the whole question in all its bearings.

"A supplementary aid to the same en the Register of Work which Mr. Wa Long, President of the Local Governm Board, is compiling by tabulating the re of his inquiries from local authorities to the amount of postponed or new pu and private work likely to be available their respective districts."

A Press representative also understa that the capital value of the work whic likely to be available through the agenc local authorities at the close of the war run into tens, if not scores, of million pounds, owing to the accumulation of ferred work due to the suspension of l loans. Of these dormant municipal un takings, repairs to roads will prob absorb several millions of pounds, and tensive building works, including m housing schemes, may be expected to c to maturity. Private building, too, experience a boom after its enforced pension; trades fostered by the remain; and on the land reclamation afforestation schemes may be tried.

THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, November 15, 1916. Volume XLIV. No. 1141.



LEYCESTER HOSPITAL, WARWICK: VIEW IN GALLERY AROUND COURTYARD.

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 15, 1916. TOTHILL STREET, WESTMINSTER. VOLUME 44. No. 1141.

EDITORIAL.

MR. ERNEST NEWTON'S presidential address at the opening meeting of the new session of the R.I.B.A. revealed little or nothing of the inner workings of the Institute during the past year, and the inference is not necessarily that the Institute has suspended its forward movement and is merely marking time, but that any disclosure of its operations would, for the moment, be premature, and perhaps mischievous. With so many members away on active service, it would be unfair to them to advance measures or to arrive at decisions in which their interests are involved, but in which, for the present, they have no voice. To "carry on" contentious issues in their absence would be to emulate the unpatriotic example of Canberra, which was one of the few really definite and substantial topics with which the President could deal; for the rest, he had to resort to generalisation, and very gracefully and delicately he did it, with the possible exception of his rather provocative reference to trade unionism. His suggestion to grade labour into first and second class may have in it (to use his own modest phrase) "the germs of soundness," but the prospect of fruition is very remote, seeing that trade unions, like other institutions, are governed by majorities, in which, alas! second-class men greatly preponderate. Only in Utopia could they be expected to cast an overwhelming vote placing themselves in the second class. It is rather lucky for the President that all the young fire-eating trade unionists are at the front, and that the hornets' nest into which he has thrust his hand is for the moment empty.

* * * *

Nevertheless, he has hit upon what is perhaps the most serious defect in trade-union polity—its proneness to act on the absurd assumption that all its members are of equal wage-earning capacity, with the inevitable result that men do not individually get their deserts, whether these be more or less in any given case, the hilltop craftsman getting no more than his fellow-member who is down in the ditch, because, the minimum wage being fixed, the employer is bound to balance his wages account by averaging on the general earning capacity. He cannot always pay the first-class man in accordance with his merits, because there are so many men who are not of the first class, and hence the competent men suffer for the sins of the incompetent. Indeed, in many trades—and we fear that the building trade is amongst them—the competent worker is not allowed to display his capacity to its fullest extent as to quantity, although fortunately quality is not subject to direct obstructive interference, the means of qualitative analysis being as yet inadequate. But how to prevent the deadly levelling effect and the crying injustice of the minimum wage is a baffling problem which the President's suggestion brings no nearer towards solution.

With the President's plea for the national mobilisation of professional and scientific organisations we have entire sympathy. It is painful to think how much force has been neglected or misapplied through ignorance of its quality and its provenance. That the Government did not know where to lay hands on it, or what was its effective worth in the crisis, is partly due to the innate modesty of professional men, which is only too faithfully reflected by their societies. It is not entirely the fault of Government or the public if the Institute—we trust that the instance is not too pointed, but we are constrained to keep within our own domain—is regarded as a kind of club of *dilettanti* incapable of practical exertion. It is true that, as Mr. Newton says, the whole machinery of the Institute was, at the outset, placed at the disposal of the Government; but, as we pointed out at the time, the approach was too modest to command more than correspondingly polite and perfunctory measure of attention from politicians inured to robustious self-assertion. Architects, individually and collectively, should be more active in public affairs; and, *à propos*, we are glad to see that the new Mayor of Newport, Councillor Alfred Swash, F.R.I.B.A., J.P. He could hardly have attained to that distinction without a rather severe preliminary course of valuable civic service. Seeing how long a list of buildings he has to his credit, it is evident that he exemplifies the saying that it is the busy man who has most leisure.

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In a rather alarmist book that is just now being energetically pushed and widely read and criticised ("Eclipse or Empire") it is shown conclusively that industrially and commercially, we are not keeping pace with the advance of our rivals; and with reference to steel-framed buildings it is alleged that, with regard to experimental and research work, both America and the Continent have done practically all the pioneering, whilst England has relied principally upon their experiments. Whether or not this last exaggerated statement does not greatly matter. There is certainly a kernel of truth in it, and the charge holds good with respect to reinforced-concrete construction, which notoriously and visibly owes its adoption in this country to the enterprise of American and Continental firms. And yet it was in this country that the great industries of concrete and steel manufacture originated: and it would be possible to compile a long catalogue of similar instances in which we have planted the seed and others have reaped the harvest. There is some truth, also, in the allegation that in the old days many employers as well as workmen in this country were "little more than half-timers." The charge that touches not only the restriction of output to which Mr. Newton refers in his presidential address but also the slackness of those employers who

loof from their workers, and took much more interest h the balance-sheet than in the business. Of course ie authors of the book fall foul of our educational ystem, and their case against it derives much force om the greater practicality, if not the more scientific naracter, of education abroad. Already that is being tered. As we are showing a series of illustrations this Journal, British universities and secondary chools, as well as technical institutions, are at length wake to the importance of scientific training, and are garding their laboratories as something better than means of scientific recreation. In the near future, it ill not be possible to confirm the statement that all ie experimenting upon materials seems to be done in ourth-rate American universities.

* * * *

From a summary of the annual report of the heffield, South Yorkshire, and District Society of rchitects and Surveyors, it appears that the Council f the Society have had under consideration the odification of local building by-laws with a view to heapening the erection of working-class dwellings. pparently the Council have been able to make certain iggestions which the City Council are willing to adopt or the duration of the war; but, unfortunately, as the rchitects recognise, the houses built under the odified conditions will remain as more or less permaent memorials of war-time exigencies. There is also me danger that the precedent may prove stronger an the proviso. Details are lacking, but it may be ite safely assumed that a society of architects would, ven when "cheapening" was the object, put forward proposition for the degradation of the dwelling, and at therefore the cautious attitude of the City Council ay signify nothing more than the customary distrust innovation. Corporations have an almost superitious reverence for their by-laws, even when these e demonstrably absurd; and it is notorious that many cal building regulations impose restrictions that are ite ineffectual save as a means of increasing cost and nsequently of discouraging enterprise, sending up nts, favouring overcrowding, and thus setting up a ng train of ill consequences. Antiquated by-laws, hich take no cognisance of the newer and cheaper ethods and materials of construction, command no spect, and should be swept away as inimical to the mmunity; but it is imperative to discriminate tween such mischievous survivals and those by-laws hich are manifestly to the advantage of sound using, and no doubt this distinction has been kept ell in view by the Sheffield Society. No matter how eat the need for working-class dwellings, architects ill always steadfastly oppose any attempt to meet it reactionary lines.

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It is reassuring to find that the Sheffield Society, ving considered the question of narrowing the fooths of secondary streets, did not recommend this actice. Wherever found—in books, streets, or the licate matter of incomes—skimped margins are an ter abomination. That they make for economy is erely a specious claim which ignores the higher eaning of a much-abused term, confusing economy th meanness. There is a certain sense of proportion at should govern the relative widths of pathway, adway, and height of buildings; and we must confess at we are not quite reconciled to the prescription metimes obligingly prepared by town-planners) of rrow paths and roadways for non-arterial streets. arrow pathways, always dangerous to children, are rilous to all when lighting restrictions are in force or hen, for any purpose, the pathway is "up," or is otherse obstructed. In the mean streets of the London burbs numerous accidents have happened in the evailing obscurity of night by people inadvertently slipping into the roadway, and this has also occurred in arterial roads that, to accommodate tramways, have been widened at the expense of paths and forecourts. Here, therefore, is another of the many instances in which the case for amenity can be stated on utilitarian grounds.

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It is odd to note that in so go-ahead a city as Belfast they have only just discovered the virtue of systematically numbering houses. It has been revealed to them as a consequence of the restrictions on lighting, which have accentuated the difficulties of tracking a house-dweller to his lair, especially those whose fastnesses are set in the midst of parks and avenues. In future these grandees must hang their banners on their outward walls. That is to say, they must put each his allotted number on his gate, so that the new postman may be spared the fatigue of tramping a thousand yards in search of The Cedars, only to find at the end of his journey that he has arrived at Fair Lawn: or *vice versa*. Belfast is tremendously behind the times. In London systematic numbering was enforced before the war broke out, and therefore the brilliant idea must have occurred to our astute County Councillors quite independently of the illuminating experiences of the Belfast burgesses. In London the inconvenience arose less from the anonymity or the numberlessness of what the auctioneer (learned in Euphues his Booke calls "park-like estates," than from a craze for subdivision. A fairly long street would be cut up into a dozen "Terraces," "Villas," "Places," "Rows," and so forth, each collection numbered independently, so that the same number might occur a dozen different times in the same street; and as, more often than not, people sending letters remembered the name of the street but forgot the sub-title, the postman's daily round was rather of the nature of a sporting adventure until the County Council stepped in and reduced the hazard but increased the monotony of his useful life.

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It was primarily for the convenience of the postman that prosaic numbers were first substituted for the emblazonments that formerly held the field; although the tremendous noise of signboards creaking in a gale, and the ghastly accidents that occurred when the fixings grew weak and the gale waxed strong, greatly strengthened the case for reform. Only publishers, publicans, and sinners cling to their old pictorial signs. Thirst may be quenched at the Goose and Gridiron, books bought at the Bodley Head or at the sign of the Ship; and there is a certain tailor who has pressed into his service a commendable Velasquez, in which Sartor is immortalised. But Dickens's wooden midshipman with the theodolite has been taken indoors, for preservation as a curious survival of pre-penny post times; when few could read, but all could distinguish between a pestle-and-mortar and a dog-and-porridge-pot, thereby divining from afar off where lay the apothecary and where the ironmonger. Even the barber's pole, with its horrid suggestion of lancet, blood, and bandage, is becoming obsolete, and so are the cobbler's last and the chimney-sweep's brush. Some of the old signs, whether they were pictures or escutcheons, framed in finely wrought ironwork, or were carved in three dimensions, as green dragons, blue lions, or golden harps, were excellent specimens of craftsmanship, and their supersession was a great blow to the minor arts; for the sign-maker turned fascia-painter seems never to have quite recovered from the shock of the sudden revolution. To few is it given to excel in both art and letters—the penny post established once for all their incompatibility. It destroyed at once the art of letter-writing and of lettering.

HERE AND THERE.

IN an obscure corner of a great library I have come upon six little volumes which embody the record of the first architectural and building journal published in this country, and as it is a matter of general interest to review, in the light of the present day, this pioneer effort in architectural journalism, I shall proceed to give some representative extracts. The earliest of the building journals now existing goes back to 1843, but "The Architectural Magazine and Journal" ante-dates this by nine years, the first number having appeared in March, 1834. It was a monthly, and it lived for five years—till December, 1838, by which time the object of its existence, as will be set forth later, had been accomplished. During this early part of the nineteenth century there appeared an "Encyclopædia of Cottage, Farm, and Villa Architecture," by J. C. Loudon, and it was the "beneficial influence" of this work, which the author tells us "is gradually effecting a reformation in the construction of cottage dwellings and farm buildings, not only throughout Britain and Ireland, but in America and Australia," that induced him to produce his architectural and building monthly. Before proceeding to deal with this lively publication let us set down the industrious career of J. C. Loudon, who must surely have been a shining model to that arch-priest of the strenuous life, Samuel Smiles.

* * * *

The first fact is that he was a Scotsman, son of a Lanarkshire farmer, and he "came south" in 1803, after displaying a prodigious youthful energy in the study of landscape gardening and horticulture. Arrived in London, he proceeded to make a name for himself. Very soon he published his first essay—"Observations on Laying-out Public Squares," and went on to other similar activities, but these were cut short by rheumatic fever, upon recovering from which he decided to go in for farming, and took pupils in agriculture with such success that by 1812 he had made a profit of £15,000. Such riches spurred his ambition. With a view to gathering material for publication, he abandoned his educational farming adventure, and went for a tour through France, Germany, and Russia, following the line of Napoleon's Grand Army, and reaching Moscow in March, 1814, but when he came back he suffered the bitter experience of Mother Hubbard, his investments having failed and his money gone. Loudon, however, was not the man meekly to accept disaster. He at once set about to retrieve his fortune by means of encyclopædias (in which connection we may note that others, of a more recent date, have found this a very profitable field when generously advertised). Of these he published no fewer than five, beginning with the "Encyclopædia of Gardening" in 1822, and ending with the "Encyclopædia of Trees and Shrubs" in 1842, and in the intervals between meals (he could only spare time for two meals a day—breakfast at 7 a.m. and dinner at 8 p.m.) he started the "Gardener's Magazine" in 1826 (which he edited till his death, and made £750 a year out of it for many years), the "Magazine of Natural History" in 1828, the "Architectural Magazine and Journal" in 1834, the "Suburban Gardener and Villa Companion" in 1836, and, most absorbing of all, a grandiose monthly, "Arboretum et Fruticetum Britannicum," which last proved his Waterloo, for it practically ruined him. At one time Loudon was editing no fewer than five monthlies; no wonder, therefore, it was his custom to work until two o'clock in the morning! On account of his "Arboretum" he became indebted to the extent of £10,000, and being a man with a conscience he did not go about, affluent, with a greasy Bankruptcy Acts snigger on his face, but did his utmost to pay his creditors by fresh endeavours. Though maimed by rheumatic fever and chronic rheumatism, and having an amputated right arm (he broke it in 1820), a contracted left arm, with a thumb and two fingers that were useless, and a stiff right knee, he took up landscape gardening again and carried out many schemes up and down the country, while his two sisters learnt wood-engraving to assist him in his future publications, and his wife began to write botanical works on her own account. And thus gradually reducing his indebtedness, he worked literally, to his last gasp, for on December 13, 1843, he was dictating "Self Instruction in Gardening" till midnight, and the next day he died in his wife's arms "while actually standing on his legs." So passed to his rest J. C. Loudon, the father of our architectural journalism.

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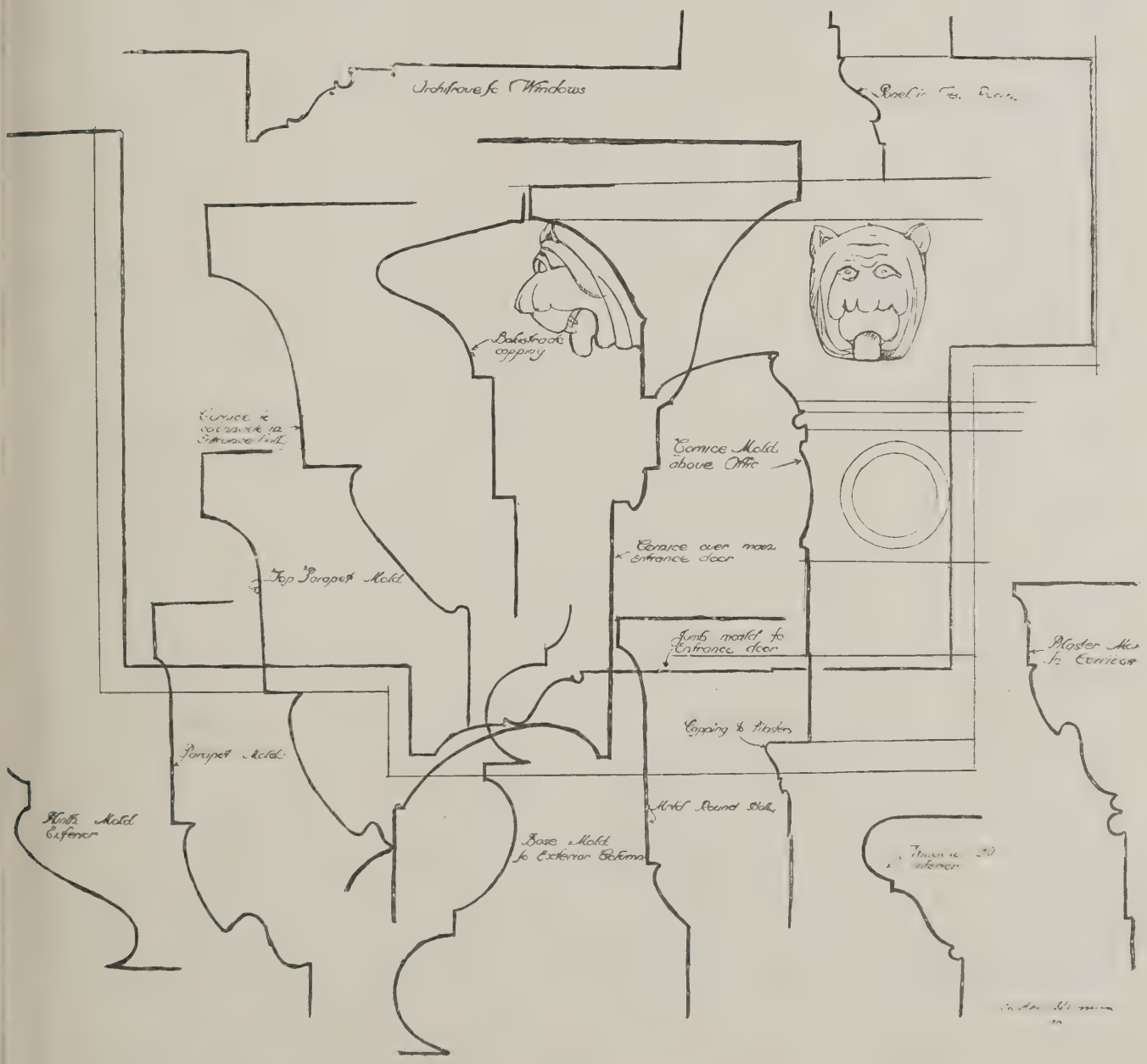
His scheme for the "Architectural Magazine and Journal" was three-fold. First there was to be a section of Original Communications, in which "every subject will be treated on the supposition that the reader is in a great measure a stranger to it"; then a section for Reviews, "the object of which will be rather to give a distinct idea of the contents of the works reviewed, than to display the talent or knowledge of the reviewer"—a cutting observation this; and, lastly, a section for Miscellaneous Intelligence "in which we shall endeavour to insert no intelligence which we have not good reason for believing to be true. Every query shall be inserted that is not frivolous; and, under the head of Retrospective Criticism, we will allow every article which appears in the work to be critically examined, provided that no personalities are introduced, and that the criticism is never couched in offensive language." From all of which it can be seen that there was to be a fair fight and no favour, and Righteousness was to prevail over Evil. Now for a more precise statement of the opinions underlying this enterprise. The "Introduction" gives it to us, so I will quote from it, with the reminder that its chief interest lies in its reflection of the state of architecture during the 'thirties.

* * * *

"One of the great objects which we have in view is the improvement, or rather the creation, of a taste for Architecture in that portion of society which occupies the best houses. This, we conceive, is to be attained in two ways: by inducing this class, and especially the female portion of it, to read and think on the subject of domestic architecture; and by cultivating a better taste in builders, carpenters, and others engaged in the practice of building, so as to induce them to erect, of their own accord, houses of a superior style. Fortunately for this last purpose, taste in an art is not necessarily connected with wealth; it may be possessed by the journeyman carpenter, mason, bricklayer, or cabinet-maker, in as high a degree as by the architect, surveyor, or learned and wealthy amateur. In all it must first exist naturally, and in all it must be improved by cultivation. Now, the cultivation of architectural taste in a man whose business is that of a carpenter or mason, and who is, consequently, familiar with architectural details, will be much easier than the cultivation of the same taste in a man of wealth, who knows no more of the practical part of building than he does of the practical part of landscape-painting, sculpture, or any other art. The great drawback in the way of the artisan has hitherto been the want of suitable books to put him in a proper course of study or instruction. He can doubtless have access to many books treating of the five orders of Grecian architecture, and to many others containing plans and elevations of buildings; but these works do no more teach architecture as an art of taste

nan a spelling-book can teach grammar and omposition. . . . . But all men born with ne ordinary condition of the human faculties are aturally endowed with taste; that is, they have a redominant feeling for some one particular class of bjects or pursuits: so let no one, therefore, who can eason, or who possesses what is called good common ense, despair of acquiring a just and correct taste in rchitecture. Architecture, as a fine art, consists iefly in the combination of forms; and, as it is ifficult to conceive any human being so deficient in ntellect as not to be able to put several forms ogether, in the general shape of a house (for house-uilding to man is as natural as nest-building to birds), o it is difficult to conceive a human being whose taste n Architecture might not be greatly improved. That nprovement it is the one main object of this work to ffect, in the minds of the mechanical artisans con-ected with Architecture, and more especially in the inds of carpenters, for the carpenter has more to do ith the construction of a building than any other erson employed by the architect. . . . If, there-ore, we could improve the taste of the rising genera-on of carpenters, we should have no fears of perating, through them, on all the various artisans nployed in the construction of houses; and, ulti-ately, on the general taste of the whole community."

Thus we have here the genesis of that modern creed which proclaims Back to the Workman to be the only salvation for Architecture. But though the carpenter was the White Hope against architectural heathenism, the "powerful influence" of the brick-layer and the mason was recognised, and a due estimate was made of the worth of that "very important artisan" the plasterer, "having the sole employment of that material which produces such magical effects on exteriors, Roman cement" (great numbers of the small houses in the suburbs of all towns are built with the savings accumulated by carpenters, bricklayers, and others); while the various other craftsmen connected with building came in for their share of appreciation. But what of the architect? Hear Mr. Loudon in reply: "The progress of architectural improvement no doubt depends in some degree on the progress which architects make in the knowledge of their art; but it depends much more on an increase of architectural taste on the part of the public"; from which we may deduce the idea that when the public are sufficiently well informed on the matter they will make their old selection between the good and the bad architects, and the latter will die off automatically. In another issue I shall show how the "Architectural Magazine and Journal" endeavoured to carry out this idea. UBIQUE.



THE ART GALLERY, MANCHESTER: MOULDINGS. SIR CHARLES BARRY, ARCHITECT.

(See next page.)

THE PLATES.

Transfer Office at the Bank of England.

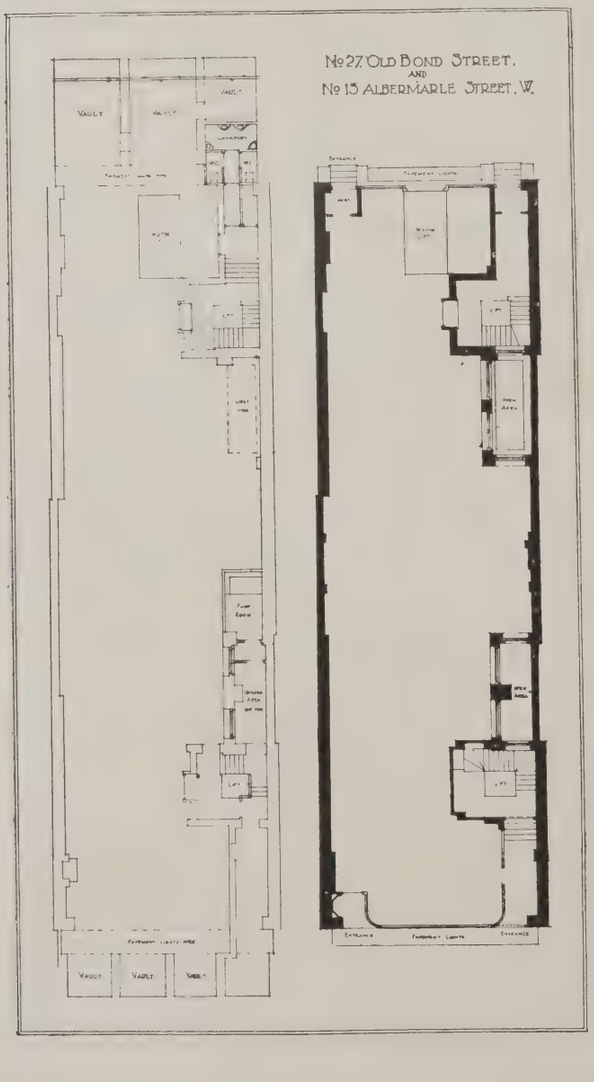
THE most important work carried out in London by Sir Robert Taylor (1714-1788) was the remodelling of the Bank of England, with additions to the building (which was originally designed by Sampson). The work included the wings on either side of the centre, which Soane swept away when carrying out his own alterations and additions at the close of the eighteenth century, and certain portions which still remain, including the beautiful Court Room. The illustration on our plate, reproduced from a fine print by Malton, shows the interior of the old Transfer Office, which was demolished by Soane. This design, with top lighting ingeniously contrived at the crown of the vaulting, demonstrates the flexibility of Classic precedent, which in capable hands can be made to respond to innumerable combinations.

Dining-room at "Hazelwood," Silverdale.

This forms part of the extensive alterations recently carried out for the owner of "Hazelwood," Mr. W. J. Sharp, from designs by Mr. E. Prentice Mawson. The interior decoration of the room closely follows the Adam manner, and the effect is consequently one of elegance and refinement.

No. 27, Old Bond Street, W.

This new building, of which Messrs. Trehearne and Norman are the architects, shows a successful method of dealing with the problem of a heavy structure resting on light supports with a very large expanse of glass upon the ground and first floors. It will be noted that the shop-front, glass and frame, is superimposed upon the façade, the architects contending that by this method the building has the appearance of being much more solid and much less as if resting upon stilts than if the shop-front had been set back—*i.e.*, the exact opposite of the practice of the disciples of Norman Shaw, who contend that the return of the pier enhances the apparent size of the support; and from the point of view of the occupant's business there can be no doubt that the method here shown is far the better. The architects were not instructed to design the building until the decease of the previous architect, when much of the steelwork was in position and some of the stonework was ready. They found it necessary to re-design the whole, and the front is entirely their own conception. It was carried out under considerable difficulties, however, as the work could on no account be stopped, so that it is true to say that to a certain extent the building was designed as it went up. Ancient light difficulties occurred towards the later stages, but, fortunately, all parties proved reasonable, and the upper portion of the front illustrated represents the happy compromise which the architects were able to effect. Practically the whole of the stone was worked before the ancient-lights point arose, but by a certain amount of manipulation it was found possible to use it all in fresh positions. The treatment of the shop-front is interesting. It has two entrances, one being used for the upper portion of the building. The interior and exterior views which we publish show how this has been arranged, whilst still apparently giving the shop the full value of the whole front so far as appearance and lighting are concerned. The design was hung in the Academy this year, but, being a hastily coloured drawing, it did not give such value to the architectural detail as the unshaded line perspective which we publish. The contractors for the building were Messrs. Spiers and Son, Ltd., the steelwork was carried out by Messrs. The Fawcett Construction Co., Ltd., the stonework by Messrs. A. S. Edwards, Ltd., casements by Messrs. H. H. Martyn and Co., Ltd., and electric lifts by Messrs. Hammond Bros. and Champness, Ltd.



A Seaside Cottage.

This design, by Mr. V. J. Wenning, of the Architectural Association School of Architecture, is interesting as showing a type of bungalow which latterly has been very much in demand by people who spend their week-ends by the sea. The ground floor is taken up by a large living-room, with lounges opening out of it right and left, and kitchen offices arranged behind (where also the entrance and hall are placed), while on the first floor are two good-sized bedrooms in the wings and a bedroom with dressing-room adjoining in the centre of the cottage. The trellis verandah serves as an admirable shelter on the front facing the sea, and adds an air of gaiety to the design.

ART GALLERY, MANCHESTER.

OUR series of illustrations of the Manchester Art Gallery, of which we have previously given plans, sections, and details, is concluded with the profiles of mouldings, appearing on page 225, and the very interesting scale model, of which sections and the elevation are illustrated on page 227. Mr. Gordon Hemm, to whom we are indebted for the series of drawings of Sir Charles Barry's fine building, notes that the model must have been made before Barry revised his design; and our contributor believes that the sections of the model show the building as it was when it was known as the Manchester Royal Institution, the alterations occurring when the Art Gallery was formed. The hall, however, remains as originally designed.



MONUMENTAL ARCHITECTURE. L.—TRANSFER OFFICE, BANK OF ENGLAND, LONDON.

SIR ROBERT TAYLOR, ARCHITECT.

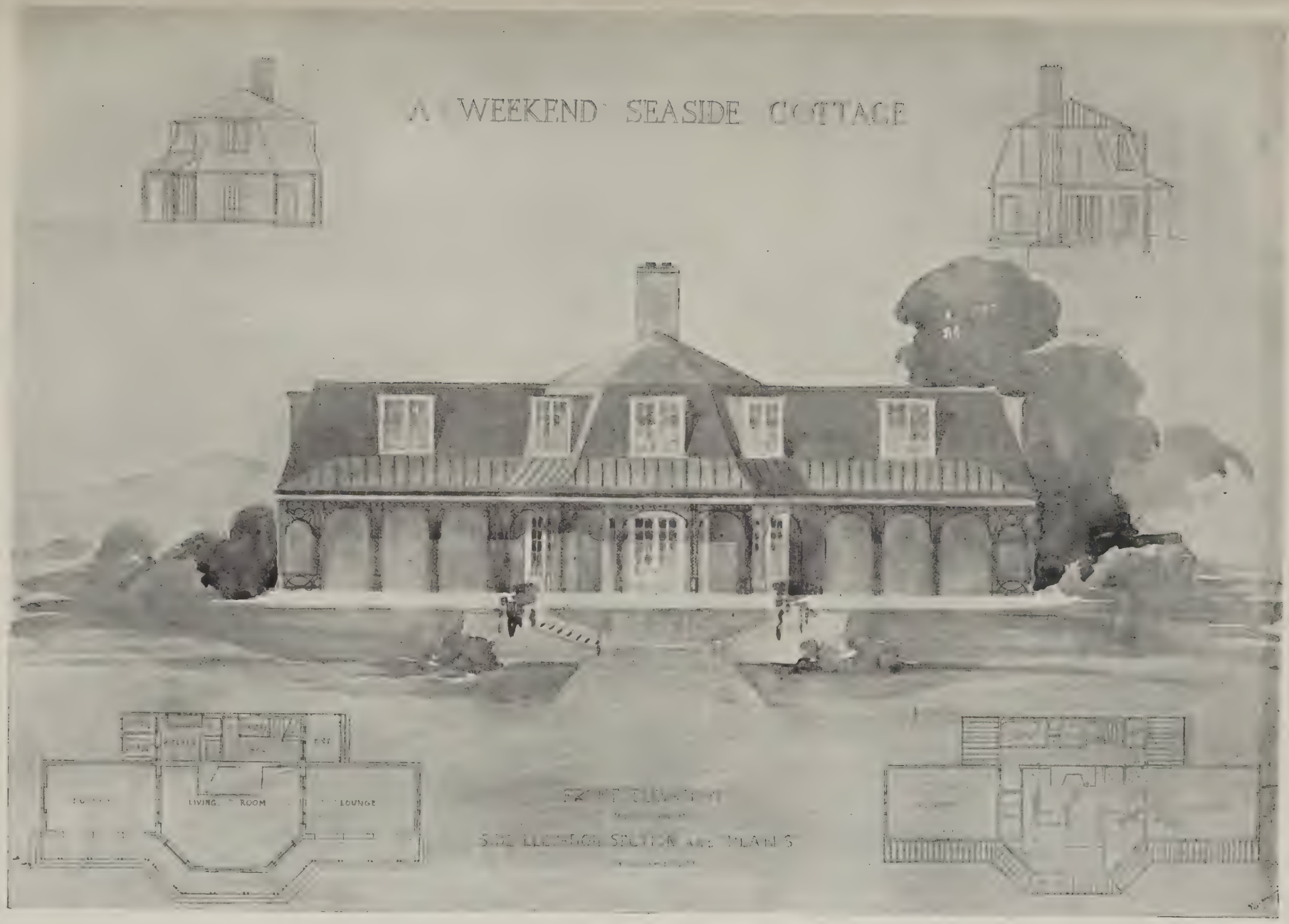
Supplement to "The Architects' and Builders' Journal," Wednesday, November 15, 1911.



MODERN DOMESTIC ARCHITECTURE (SERIES II.). XLIV.—THE DINING-ROOM, "HAZELWOOD," SILVERDALE.

E. PRENTICE MAWSON, ARCHITECT.

UNIVERSITY OF ILLINOIS

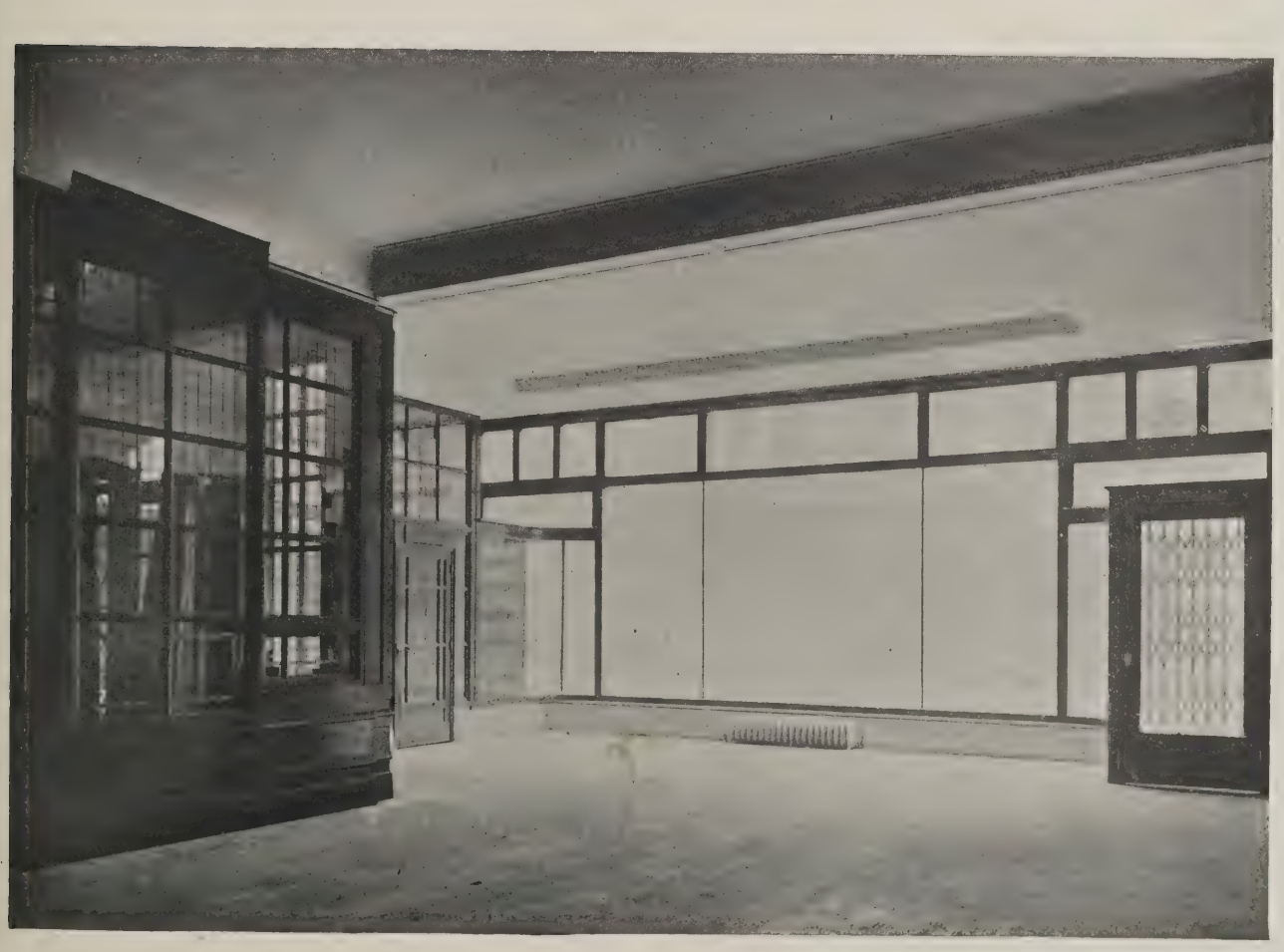


STUDENTS' DRAWINGS (SERIES II.). XXXVII.—DESIGN FOR A SEASIDE COTTAGE.

BY V. J. WENNING.



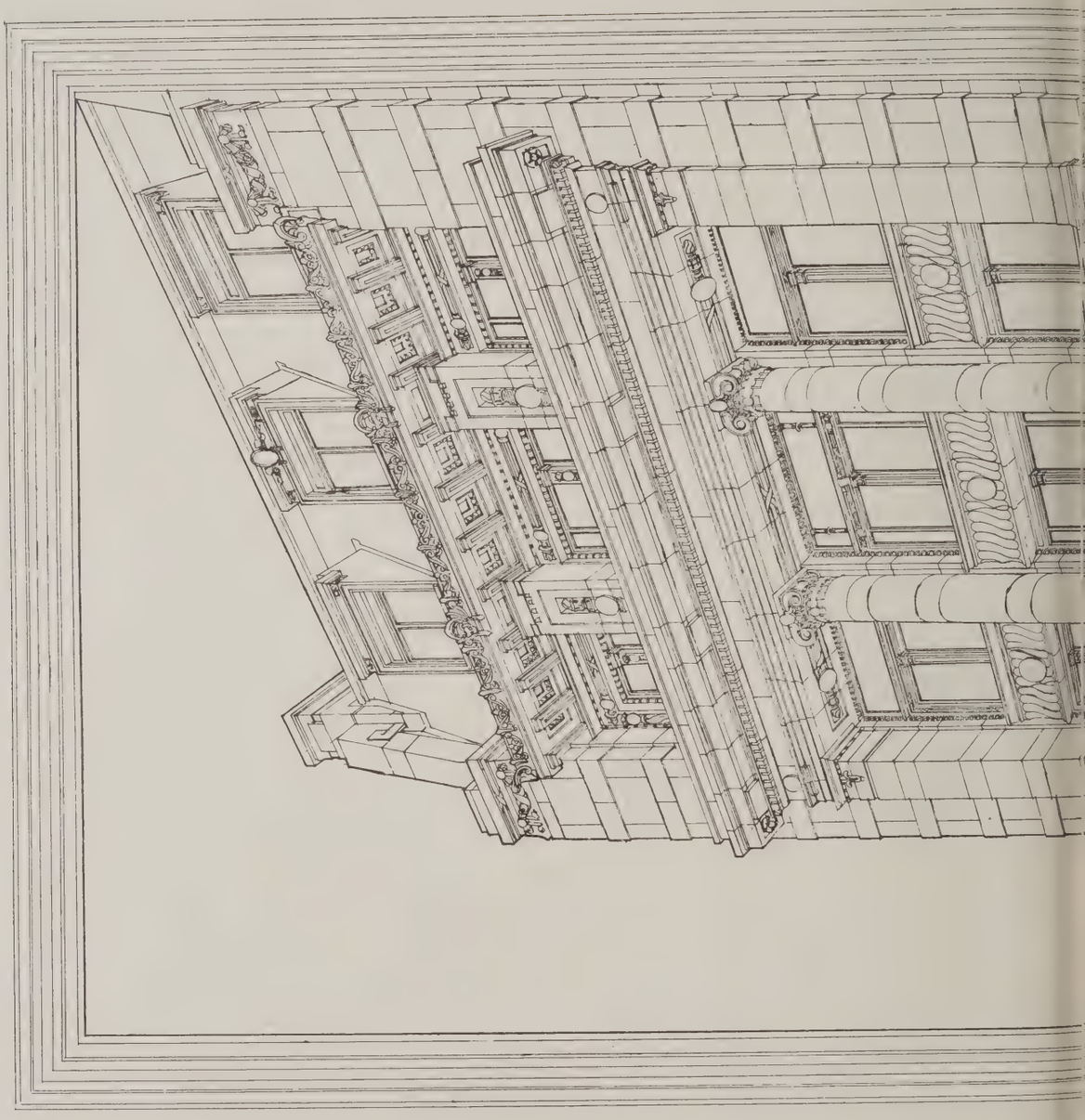
Exterior View.

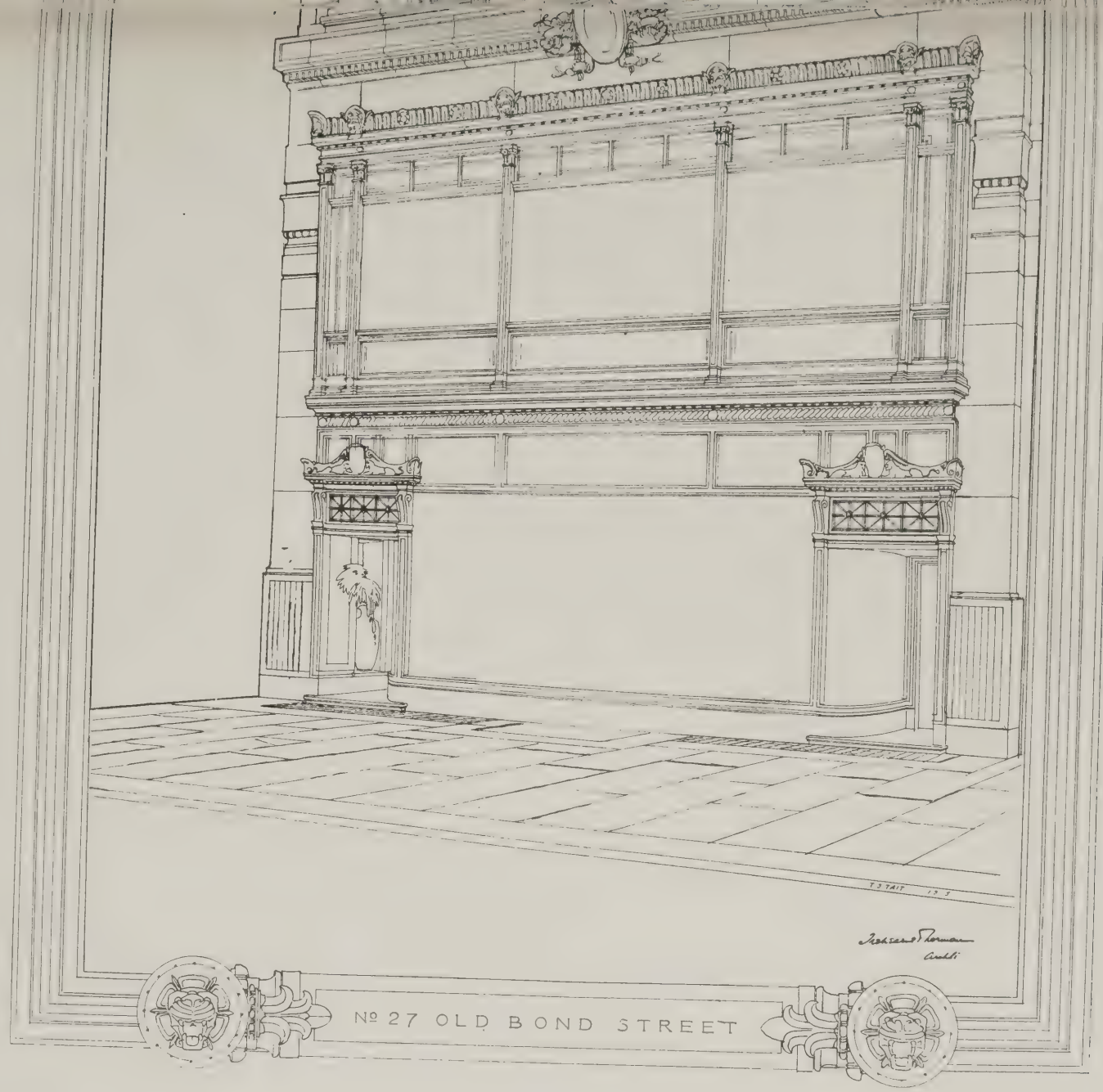


Interior View.

MODERN SHOP FRONTS (SERIES II.). II.—No. 27, OLD BOND STREET, LONDON, W.

TREHEARNE AND NORMAN, ARCHITECTS.

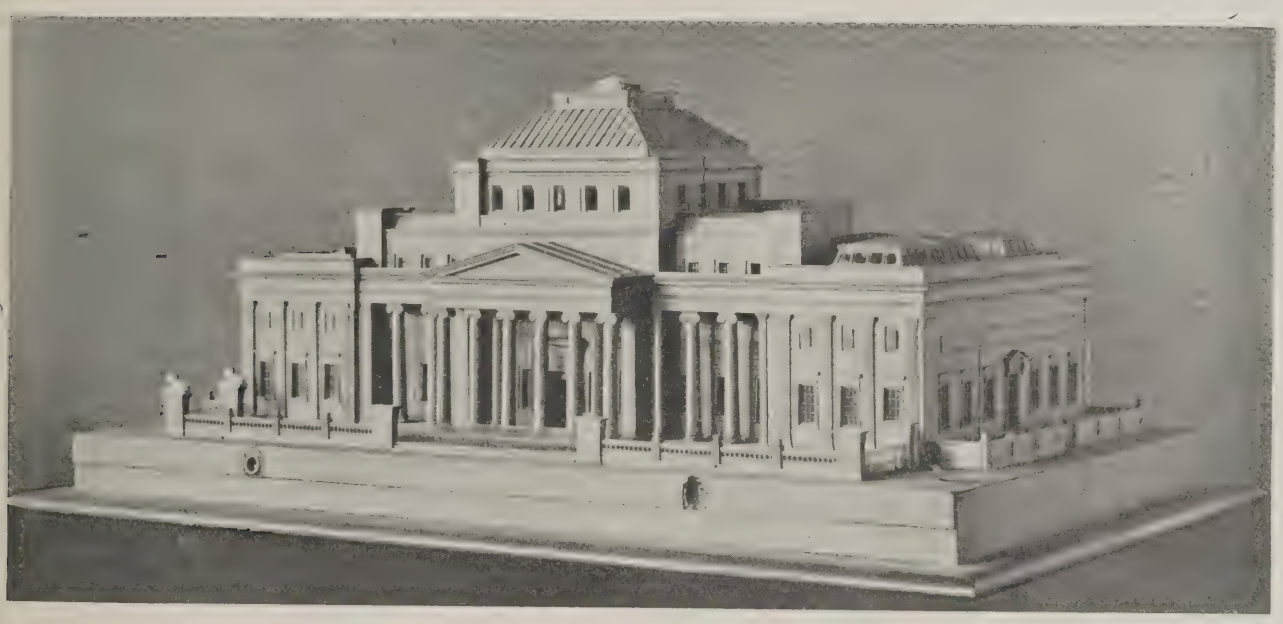




CURRENT ARCHITECTURE (SERIES IV.). VI.—BUSINESS PREMISES, No. 27, OLD BOND STREET, LONDON, W.
TREHEARNE AND NORMAN, ARCHITECTS.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS







SCALE MODEL OF THE ART GALLERY, MANCHESTER. SIR CHARLES BARRY, ARCHITECT.

(See note on opposite page).

THE WAR AND THE PRACTISING ARCHITECT.

MR. ERNEST NEWTON'S PRESIDENTIAL ADDRESS.

THE opening meeting of the eighty-third session of the Royal Institute of British Architects was held on Monday, November 6, when the President, Mr. Ernest Newton, A.R.A., delivered his inaugural address, which was devoted almost entirely to matters related to the War. Mr. Newton said:—

The War Committees have been active, and the Civic Survey has continued its most useful work. It is gratifying to know that the small exhibition held by the latter at the Congress of the Sanitary Institute some little time ago created great interest, and it is hoped that a more complete exhibition may be held in our own rooms early next year.

The Restriction of Building.

Our anxieties as to the future have, of course, not been lessened by the action which the Government was compelled to take last July in issuing an Order in Council controlling private building for a time, in order not only to keep steel for the purposes of the war, but to secure building labour for urgent work in connection with munition buildings and other vitally necessary national undertakings. It was necessary, too, to relieve the railways as far as possible from the carriage of building materials. The Ministry of Munitions, which has the carrying out of this difficult and delicate task, realises the effect of this control on all those connected with the great industry of building; and, without being indiscreet, I may say that its attitude is most sympathetic. Every effort is made to adjust the conflicting claims of individuals and the State, but, of course, the State has, and must have, the first claim. By the adoption of a system of inspection it has been possible to ensure that no building in course of erection is stopped arbitrarily and without due regard being given to its protection and security. In many cases it has been found possible to continue the work until enough has been done to enable the building to be made use of. In other cases, where the structure was nearing completion, it has been found possible to roof it and to finish the interior as, for the moment at any rate, it is only certain classes of labour that are required for State purposes.

I should like to enlarge on this subject, but, for reasons which I think you will readily understand and appreciate, I feel that it is better to avoid going very closely into details. I can, however, assure you that every case is gone into carefully and examined from every point of view, and that it is of value to have these cases considered from the technical standpoint. The staff is composed of architects accustomed to deal with buildings of every kind, and every effort is made to administer the Order with scrupulous fairness. It is, perhaps, hardly necessary for me to tell you that this work is not done in the traditional office hours of ten to four, with a two-hour lunch interval. It would be comforting to be able to give some idea of the duration of this control, but, although I am sure it will be relaxed at the first possible moment, no one can forecast future developments.

You will have noticed, no doubt, that the Ministry, through the Press, has made the thoughtful and timely suggestion that the public would do well to take advantage of the lull in building operations to get plans prepared now for future schemes. If this advice is followed generally it will help architects to tide over this difficult period, and we must hope that the *diminuendo* will be followed by a *crescendo* and a long *forte fortissimo* passage.

It cannot, however, be denied that the outlook for architects at the present moment is not very brilliant, but at a time like this everyone can do something, and if there is little or no architectural work to be done we can do a thousand-and-one other things. Our training tends to make us versatile. We already have some architects making shells and aeroplanes, others making explosives, and some even navigating barges for the carriage of munitions. There is a man's work to do in many directions—in offices, on the land, everywhere. The work of hundreds of supposed "indispensable" young men can be done, and done well, by architects of intelligence and ability. Our practice obliges us to have an insight into everybody's business. We have made a large contribution of our young men to the Army, and we old ones are not going to sit still and bewail our fate just because for the moment there is no market for our special "line." If our young men can serve in the ranks, we can serve in the ranks too—not in the trenches, but in offices, factories, anywhere where our work is wanted, and where we can release a young man to take his place in the fighting line.

Almost since the war began, certainly from the first winter, our newspapers have been full of paragraphs cunningly disseminated by Germany and innocently printed by the British Press, stating that Germany was so short of men that she was driven to take the halt, the blind, and the maimed into the Army. The accounts of food riots, mutinies, loss of *moral*, follow each other at discreet intervals. All these crafty tricks are intended to cause a slackening of effort here and they have not been entirely without result. I think no one who follows events intelligently can have any doubt about the future if only we realise that *now* is the time not for slackening for an instant, but for supreme effort. We have to put every ounce into the scale. Everyone must do something or suffer something. There are a thousand ways of losing, but only one way of winning, and the one way is to concentrate all our energies on the war, to will victory and to work for it, to realise that the power of Germany is only beginning to be broken, and that the victorious end will come about not only by the valour of our Navy and Army, but by the work of every man and woman in the country.

Planning for the Future.

Although I have said our one duty is to concentrate all our efforts on the prosecution of the war to a victorious end, that does not mean that we should not think of wise plans for the future. This can be our recreation. I have a shrewd notion, however, that whatever schemes we may work out, our future will be determined for us by the men who have done the fighting. We read, perhaps, a little too much of plans for "trade after the war." Too much thought and energy are being put into these schemes for a future over which we have no control. It is to be hoped, however, that in these vast commercial projects the claims of the workers, now the fighters, are not overlooked. It will be a disgrace to us as a nation if after the war we are content to let them live in the drab and dreary districts which many people seem to look upon as the inevitable type of district for a working population. In London alone we have square miles to destroy and replan. Our people must not only have the same pleasant surroundings which we consider indispensable for ourselves, but they must earn enough and have leisure enough to enable them to enjoy life. The amount spent on the war in one week would be enough to sweep away many of these dreary neighbourhoods and replace them by cheerful streets and squares of pleasant and comely houses.

When once the citizens of London begin to realise the disgrace of squalor and ugliness the architect will

me into his own again. It is not only the outlying stricts that cry aloud for change. We have a glaring ample in the very centre of London, and, thanks ainly to the untiring energy of Sir Aston Webb and e London Society, we seem within reasonable stance of carrying out a great scheme for sweeping vay Charing Cross railway bridge and replacing it th a fine road bridge worthy of our great city. It is nost hopeful sign that Parliament, which still reflects blic opinion, is on the side of the improvers. Possibly e number of those who care much for a beautiful city small, but if the rest of the community, at any rate, n be brought to see that there is a commercial value architecture, and that it pays to have a fine city with eat streets and squares and fine bridges, the money ficulty, which is the rock on which so many schemes ve suffered shipwreck, will be negotiated safely. e series of articles in the "Observer," by Mr. John rns, Sir Aston Webb, and Mr. Reginald Blomfield, ll help immensely to attract public attention to the bject and to give an air of reality and nearness of alisation to a project which has been discussed for veral years. It is hardly necessary to say that the stitute gives its complete and unreserved support to scheme for effecting so great an improvement.

Labour Output.

Other great projects will have to be taken in hand er the war, and we can console ourselves during the n time of the present by dreaming dreams of the eat things we are to do in the future. If the war is lead to a change in the surroundings of the workers is clear, too, that there will be changes in the thods of work. The Trade Unions, for the purposes the war, have given up their "customs" on the tinct pledge that after the war they shall be at erty to resume them. I know very little at first nd about these customs, but I have been told that far as the building trade is concerned they are based the assumption that limiting the amount of a man's put is the only way to make the work go round, so t each man may have a share, the idea being that re is a certain average amount of work per annum l an ascertained number of men to do it. I believe s to be quite unsound. Limiting the amount of work an can reasonably do not only keeps skilled men at level of the less skilled, but makes building cost re, so that less is done. Many, many years ago I gested a system of two classes of workers. The re skilled or first class were to work quite unfettered l to receive higher wages; the second class, also ettered, would receive less. The incentive for the ond-class man to improve himself so as to be moted to the first class would be great. The result ld be more output, better paid work, and a elling up instead of down. This was a very juvenile rt on my part, and I am not even sure that it was inal, but I still believe it has the germs of sound- s, and that the Trade Unions, with their fine anisation, could do something on these lines.

State Organisation of Professional Bodies.

Other changes and other reorganisations must also taken in hand if we ever again have to cope with a ation which requires the whole organised strength skill of the community. We have at the present nent completely organised societies, institutes, and ciations of architects, engineers, and of scientific of all kinds, but they are all isolated links with ing to bind them into a chain. If, instead of this ation, all these societies were linked together as of a State organisation ready for use in a case of rgency, the Government would have ready to hand whole machinery of these organisations and could their hands on the men they wanted and get all information they required in a few hours. Suppose this organisation had been in existence when war broke out. Representatives of all these bodies would have been summoned. The Institute would have been entrusted with work proper to architects. Engineers would have been allocated their work, chemists theirs, and all without waste, overlapping, or confusion, because the machinery was already in working order.

The amount of help that the civil organisations could give to the Government is incalculable; I cannot, of course, speak for other bodies, nor do I know to what extent their organisation was made use of, but so far as the Institute is concerned, I can say that we were ready directly the war broke out, and that not only then, but more than once later the whole of our machinery was placed at the disposal of the Government, and I have no hesitation in saying that had we been made use of many delays and mistakes would have been avoided and much expense saved. I have lately had the duty of examining vast numbers of plans, which have ranged from cottages to factories covering acres; every type of construction is represented, proving, if proof were required, that we have men competent to design and carry out on proper business and economical lines every known type of building.

Although we properly regret that so little use has been made of us as an organised body, and are inclined to blame the authorities for their shortsightedness, we must remember that because of the lack of touch which I have before referred to, we were strangers to the Government, and, after all, Governments are like individuals, and have a dread of the unknown. It is always so much easier to go along the well-known tracks. We all have our favourite builders, to whom we like to entrust our work, and view a strange contractor with disquiet until he, in his turn, has proved his worth. It was then natural, perhaps, though regrettable, that when the emergency arose the unknown path was avoided. It must be part of our work in the future to forge the connecting link so that if ever again a like emergency should arise we should find ourselves called upon and ready to place our skill and experience at the service of the State.

As is perhaps natural, I fear I have so far considered the war mainly as it affects us as architects, but although as islanders, whose country so far has been free from the invader, it is a little difficult to imagine what it must mean to those countries where the actual fighting is going on, we must not think only of our own sorrows and tragedies. Think how Belgium has suffered, and of the woes of our great ally, France, dear to us architects; and of Russia, the mysterious, which is being freed and regenerated by the blood of her sons; and of Italy, whose very name warms our hearts; of Serbia and Rumania—all have suffered, and are suffering even more than we are, and are giving up all present happiness now, so that future generations shall be free and at peace.

I cannot conclude without expressing my most heartfelt sympathy with those who have been bereaved. Their sorrow will be mingled with pride at the thought that their dear ones have given their lives for their country. All of us whose sons are serving live in constant anxiety, and we can only hope that the great sacrifices that we are called upon to make may bear fruit, and that the discipline and sorrow of the present may make us a strong and earnest race to carry on the work of the world in the future.

In proposing a vote of thanks to the President, Professor Beresford Pite suggested that the Australian Government should be urged to abandon the competition for its new Parliament House and commission a competent architect.

Captain R. Burns Dick, in seconding, agreed with the President's remark that the future of architecture lay with the men who were fighting, who would come back with new views of life and fresh demands upon art.

NEWS ITEMS.

The New Delhi.

The Court Circular announces that Mr. Edwin Lutyens was recently received in audience by the King. Mr. Lutyens is a member of the committee appointed to advise the Government of India regarding the replanning of Delhi as the seat of the supreme Government of India, and he is leaving shortly for India on business connected with the committee's proposals. The cost of the new capital buildings, now in course of construction, is estimated at £2,800,000.

Barnsley Architect's Bequests.

Among the bequests contained in the will of the late Mr. Benjamin Turner, retired architect, of Barnsley, a native of Armley, Leeds, are £100 each to the Barnsley Naturalists' Society, the Barnsley Tradesmen's Benevolent Association, the Beckett Hospital, and the Leeds General Infirmary; £100 to the vicar and churchwardens of St. George's Church, Barnsley, for the Pogmoor Mission, and £300 towards the cost of extending the vestry of St. George's; £50 each to the vicar and churchwardens of St. Bartholomew's, Armley, and Christ Church, Upper Armley; and £100 each to the Barnsley Nursing Association and the Armley Nursing Association.

Architect as Mayor.

The new mayor of Newport is Councillor Alfred Swash, F.R.I.B.A., J.P. A native of Neath, Mr. Swash settled at Newport in 1876, and set up in practice as an architect. He has designed a large number of the principal buildings in the town and valleys, including Caerleon Training College. He was elected to the Newport Corporation in 1902, and is chairman of the Works Committee and the Technical Institute Committee, the Library and Museum Committee, vice-chairman of the Education Committee, a member of the Central Welsh Board, the Court of Governors of the University College of South Wales and Monmouthshire, and the National Museum of Wales Committee.

Civic Survey of South-East Lancashire.

Valued help in connection with town-planning in South-East Lancashire after the war—when a boom in building is predicted—is expected to result from a civic survey which is in operation. In this survey the committee of the Manchester Society of Architects has been able to find work for a number of architects thrown out of work by the war. The co-directors of the scheme are Professor Abercrombie and Mr. Isaac Taylor, the latter of whom is the hon. secretary and treasurer of the society. Already a traffic plan of South-East Lancashire, showing the volume of traffic on all the different routes, has been prepared. Other interesting plans show all the open spaces, the rainfall, and other details, included being a demonstration of the growth of Manchester during the past 150 years.

The Numbering of Houses.

At the fortnightly meeting of the Police Committee of Belfast Corporation, held on November 2, in the City Hall, under the presidency of the High Sheriff, the superintendent of the Fire Brigade reported that since the last meeting of the committee the brigade had responded to nine calls of fire and their ambulance to 111 cases. The following resolution on the subject of numbering houses was adopted: "The lighting restrictions having accentuated the necessity for a more efficient numbering of all houses and buildings, and as many houses in avenues and parks have not the official numbers displayed on their gates or doors, and as this renders it extremely difficult for tradespeople and others to locate them, and as it is desirable that the numbering should be done officially and on the recognised system throughout the city, this committee recommend the Council to cause all houses and buildings, etc., in every street, avenue, or road to be numbered from end to end, following the usual practice of odd numbers on one side and even on the other, disregarding all private numbers, and that owners of property be requested to abolish all private numbers."

English Church Frescoes.

An exhibition of copies of English ecclesiastical mural decoration of the twelfth to the sixteenth century has been arranged in a gallery of the Victoria and Albert Museum. These copies, which have been painted in water-colour by Mr. E. W. Tristram during the last nine years, have recently been acquired for the museum, where it is intended to form an extensive collection of representations of this once-popular branch of our native art. The copies exhibited comprise a set of the Westminster Abbey paintings, including the series from the Judgment which adorned the east wall of the Chapter House, the sedilia paintings, and a fragment from a panel of the altar retable now in the Jerusalem Chamber, depicting the Miracle of the Loaves and Fishes. St. Albans is represented in the series of Crucifixions and Madonnas which are painted on the Norman piers in the nave. Three paintings from York were found on fragments of wooden vaulting which had originally belonged to the Chapter House. They include a figure of St. Edmund carrying arrows as a sign of his martyrdom. Part of a painting from Winchester represents the taking of the Saviour's body from the Cross. Many of these mural decorations were executed by painters who travelled about the country for the purpose. Three schools, each with its own style, have been identified—Westminster, Winchester, and St. Albans. The Westminster group is the most fully represented in the collection in its present state. The chapter of English art which these paintings illustrate is still obscure and incomplete, and it is hoped that much may yet be done in the way of further research. Much importance is attached to the co-operation of incumbents who come across traces of old work.

OBITUARY.

Mr. J. W. Dyson.

The death took place on October 24, after a short illness, of Mr. John William Dyson, M.S.A., who resided at "Erivan," Osborne Road, Newcastle. Mr. Dyson, who was sixty-one years of age, designed the Newcastle City Asylum at Coxlodge and the School of Cookery and Domestic Economy, Northumberland Road, Newcastle, both of which were competitive designs, the Burt Hall, the Stephenson, the Victoria and Lady Stephenson branch libraries, the Bond Memorial Chapel, Benwell, and several residences and business premises. He was for five years member of Council of the Society of Architects, of which for one year he acted as vice-president. He also took a leading part in the establishment of the Bewick Club, in connection with which he was vice-president and had held the positions of hon. secretary and treasurer. For fifteen years he was secretary of the Newcastle Art Union. He was a prominent Freemason.

Second-Lieutenant A. A. France.

Second-Lieutenant Arthur Alderson France, R.E., second son of the late Charles France, F.R.I.B.A., of Bradford and Horsforth, was educated at the Bradford Grammar School, and was a partner in the firm of Milnes and France, architects, Bradford. On leaving that firm in February, 1913, he took up professional work in Canada. He volunteered for service in January, 1915, at the age of fifty-two years, and went early in May to France, remaining there until late January, when he obtained a commission in the Royal Engineers. He was killed on October 7.

SHEFFIELD ARCHITECTS' ANNUAL MEETING.

The annual general meeting of the Sheffield, South Yorkshire, and District Society of Architects and Surveyors was held at the office of the President, Church street, Sheffield, Mr. A. F. Watson, president, in the chair. In the absence of Mr. R. W. Fowler, the treasurer, the annual statement of accounts, showing a very satisfactory financial position, was presented by the Honorary Secretary, Mr. J. R. Wigfull.

In the annual report regret was expressed at the death of Mr. Charles Hadfield, a former president and secretary, Mr. Charles Green, "a lay member and one of the cleverest craftsmen Sheffield has produced," and Mr. B. Rodgers. The Architects' War Committee appointed by the Royal Institute had been in frequent correspondence with the Council. Endeavours had been made to secure work for the local members of the profession who were in need of it, and to obtain commissions for the younger men who desired to join the Army. This had been very successful in many cases, though some had been rejected on medical grounds. The "conscientious objector" had been exceedingly rare in the profession. Many local members of the profession had taken part in the "great push," a few had been killed, though, fortunately, the number was small compared with the large number engaged. Others had been wounded, some in such a manner as to render them of little further service to the Army, and to handicap them in their civilian work.

The Council had considered possible directions in which the requirements of the building by-laws might be modified at the present time in order to cheapen the erection of workmen's dwelling-houses. The difficulty was that dwelling-houses erected under the proposed conditions would be of a permanent character. The Council understood that the City Council approved of certain modifications for the term of the war, and it was suggested that these modifications should remain in force for a certain length of time after the proclamation of peace.

The question of narrowing the footpaths of secondary streets had also been considered, but the proposals seemed to apply more to towns where there were front to back approaches rather than to a place like Sheffield, where such a system did not obtain. The officers and Council were all re-elected.



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THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

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4 *lines* (*about* 28 *words*) 1*s.* 6*d.*; 3 *insertions*, 3*s.*

BRICKWORK and Pointing wanted by the rod or lump; new or old pointing; or as Working Foreman; town or country; good references.—Address M., 38, Clifton-gardens, High-road, Chiswick, W.

BUILDER'S General or Working Foreman requires engagement; fourteen years' experience on various classes of work, London and country; good references; by trade carpenter and joiner; any offer considered; now disengaged.—Curtis, 509, Waterside, Chesham, Bucks. 924

BUILDER'S General Foreman seeks re-engagement; town or country; long experience in all trades, reinforced concrete, etc.; good timekeeper; abstainer; good references.—F. W., 68, Alexandra Park-road, Muswell Hill.

BUILDER'S Clerk (18); four years' experience; abstracting time-sheets, prime cost, and ledgers; excellent references.—S. F., 46, Mayo-road, Willesden, N.W.

BUILDER'S Manager or Assistant (above military age) desires re-engagement; twenty-seven years' experience in estimating, quantities, supervision, accounts, prime cost, etc.; first-class references.—A., 238, Brixton-road, S.W.

BUILDER'S General Foreman just disengaged; competent, reliable, good draughtsman and manager of men; excellent references.—C. W., 6, Roland-road, Walthamstow, N.E.

CARPENTER'S work wanted; labour only; just completed Government contract; good references.—A., 39, Albert-road, Walthamstow.

CONCRETE Block and Slab Making and Building; ten years' experience this system; able to take charge; age 44.—W., 24, East Holme, Erith, Kent.

FOREMAN of Painters (working); colourist; good manager of men; capable of undertaking any class work; City and West End experience; life abstainer.—E., care of 26, Sanford-lane, Stoke Newington, N.

GENERAL Foreman seeks re-engagement; trade, carpenter; competent, reliable, and energetic; town or country; first-class references; terms moderate.—J. T. S., 64, Portobello-road, Notting Hill, W.

GENERAL Foreman seeks re-engagement; town or country; any description of building; competent and experienced; age 47.—A. B., 4, Havelock-road, West Kensington Park, London, W.

MANAGER or Assistant; ineligible; efficient in plans, specifications, bills of quantities, variations, and supervision of building works throughout; highest credentials.—Buildings, 3, Cromwell-grove, Hammersmith, W.

PAINTER (good) wants job; thorough mechanic; capable of undertaking any class of work or charge if required; energetic and reliable; rate, 9½d.—Foreman, 55, Woodsome-road, Highgate-road, N.W.

PAPERHANGING (any description) wanted (piecework); high reliefs, Anaglyptas, leathers, soirettes, embossed papers, Tekko, Emdeca, canvas, and all latest productions; panelling and special designs; town or country.—Logan, 185, Loughborough-road, Brixton, S.W.

PLUMBING (Heating and Domestic Hot Water).—Practical man (age 47, registered by examination, late foreman to good firm) wants piecework; references.—Address R.P., 39, Grosvenor-road, Hanwell, W.

THE Association of Builders' Foremen and Clerk of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foreman and clerks of works are invited to join this Association.

WAR-TIME Assistance (temporary or occasional) offered by advertiser; wide experience; building accounts, measuring, schedule work, estimating, supervision, etc.—Field, 29, Harvard-mansions, Clapham Junction.

WORKING Foreman of Painters wants re-engagement; used to taking charge of any class of work; good colourman; excellent references; town or country.—C. W., 11, Simpson-street, Battersea.

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ARCHITECTS' WAR COMMITTEE.

The object of the Professional Employment Committee is to provide temporary paid work for British architects who are entirely dependent upon their profession for their living, and whose present difficulties are due entirely to the war. Applications can only be considered from architects who are ineligible for military service and unable to obtain War work of a professional nature. Enquiries should be addressed to the Honorary Secretary of the Committee at 28, Bedford Square, London, W.C.

ARCHITECT'S Assistant wanted immediately.—Apply, stating age, experience, and salary required, to C., care of Westbury and Holt, Bevois House, Basinghall-street, E.C.

CLERK of Works, for Estate Development in the Midlands; man capable of general supervision of building construction and roadmaking upon an extensive scale; none need apply who are already engaged upon Government work.—Send full particulars to your nearest Labour Exchange, quoting reference No. A2564. 925

GOOD Prime Cost Clerks wanted for contractor in France.—Apply, with full particulars, stating wages required and references, in writing, to Somerville, Ltd., 120, Victoria-street.

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ELECTRICAL NOTES.

Daylight Saving and the Cost of Daylight.

Since the closing of the summer time period on October 1 re has been time for stocktaking by the lighting authorities, art from the general opinion formed by the public. There is doubt that the latter are practically unanimous as to the ir of daylight, quite apart from any saving in the cost of vantages and benefits which accrued to them by the extra ht consumed, whether oil, candles, gas, or electric light, and s generally assumed and hoped that the Act will be renewed t year at an earlier date. The public has, however, not yet ne to any general conclusions as to direct financial saving in ting, because the lighting authorities have not all rendered ir accounts. Certain of them have, however, published state-nts showing the total reduction of units consumed. For tance, Edinburgh quotes 13 per cent. in comparison with the ae period last year, equivalent to 600 tons of coal; Belfast sumers have been saved £1,400 in the cost of current; Bootle ws a saving of 15 per cent.; Wallasey a decrease of 11 per t.; whilst the "Liverpool Post" estimates that the city has ed £35,000 in gas and electricity combined. Even small ces like Tunbridge Wells have benefited.

However, it must not be assumed that the saving in coal or current consumed is the net saving. An undertaking which uces its turnover while its expenses remain the same has hing to be thankful for, and it cannot be considered that the ct of the summer-time Act can result in reduced expenses. s true that many electricity works are working with reduced ffs, but this is principally due to the Military Service Acts l not to a decrease in output. Besides, the staff expenses of h an undertaking are a small percentage of the l expenses, which are chiefly represented by interest and reciation on the buildings, plants, and mains. All these e to be paid for out of revenue, and therefore if the revenue educed the money must be found in other ways. In a private ertaking the shareholders will probably receive a reduced dend or the consumers will be charged on a higher tariff, or h. In a municipal undertaking the ratepayers are the share-ders, and they will feel the result when they receive the half-rly demand note, whilst the consumers will probably also find tariff increased. The maximum charge which an electricity ertaking is permitted to make is 8d. per unit, and there ome margin yet for most of the large undertakings in this ect. Hence the public must not jump to hasty conclusions they are likely to save much, or even anything, by reduced ting hours; the real savings are national, namely, those to the enjoyment of extra sunlight and to less consumption oal.

new aspect of daylight "saving" has just been pointed out he technical Press by Mr. F. W. Willcox, of the British mson-Houston Co., Ltd. He draws attention to a letter in cent issue of the "Lighting Journal" by Mr. Luckiesh, of National Electric Lamp Association Laboratories, Cleve-d, which causes one to think. His letter appears on p. 212 ast week's issue. On considering the matter, one sees that writer has made out a good case if he wishes merely to e that daylighting is not costless. It is certainly costly to owner of the building, who, of course, passes on the cost to tenants in the shape of rentals calculated to cover all items ental lost due to light courts, as well as the increment of of windows in the outlay on the building. So far so good. Luckiesh anticipates a criticism by his reference to ventila-and trims his sails accordingly. But, however much one favour electric lighting as a healthy illuminant, one must allow oneself to be so carried away by one's enthusiasm lose all sense of proportion.

t us accept Mr. Luckiesh's challenge and consider the case multi-storeyed building without a light court and without windows, thus going to the opposite extreme. As a first set-o increased rentals will be a very fair amount of ironwork, ent, bricks, and other materials, as well as labour, on which est must be charged. The next set-off will be interest on rial and labour in respect of additional electric lighting, use, apart from the additional offices due to the saving of the -court, tenants will require all-round better lighting if they to live all day in an artificial illumination. To this must ded the cost to the tenants of the extra current consumed—t inconsiderable amount. Ventilation cannot be dismissed n "airy" manner. A proper system of ventilation would equired, as there would be no other access of air. This d involve an expensive plant comprising electric motors, ure fans, air washers and heaters, extraction fans, and some of ductwork, representing a capital investment of thousands unds. Finally, the tenants would ultimately suffer from absence of daylight, as all people do who have to work ut the health-giving rays of the sun.



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ENQUIRY ANSWERED.

Ownership of Fence.

T. F. S. (London, N.) writes: "I am having an argument regarding the ownership of some wooden fences. I have maintained that, there being nothing to the contrary in the leases, the ownership is decided by the way the nails are driven, i.e., that the rough side of the fence is towards the owner's property. Am I correct? Can you refer me to any legal decisions on this matter?"

—In the absence of documentary or other evidence which will prove the ownership of a fence, the presumption under common law is that the fence was originally erected by its owner upon the extreme verge of his property, and the nails driven in a homewards direction. This means that the fair face of the pales forms the boundary, and that the posts, rails, and constructive portion of the fence all stand upon the property of the fence owner. F. S. I.

LEGAL.

Commission Claim from Contractors.

Dapino v. Willett and another.

November 3-4.—King's Bench Division. Before Mr. Justice Darling and a Special Jury.

This was an action by Mr. Eugeno Dapino, an Italian engineer, against Mr. Herbert Willett and the Rev. C. J. Sharp, executors of the will of the late Mr. Wm. Willett, to recover commission alleged to be due in respect of contracts for the building of huts, in accordance with an arrangement he said he made with the late Mr. Willett.

The defendants denied liability.

Mr. Matthews, K.C., for the plaintiff, said his case was that the plaintiff was the means of receiving large contracts for Mr. Willett. When he asked about the commission he was always put off. The terms originally made by Mr. Willett with the War Office were the same as those made with other contractors—namely, the patriotic terms of doing the work for next to nothing. When the New Armies came into being big contracts were given out and the business became highly profitable. Counsel wished that he had had the chance of demonstrating his patriotism at anything like the percentage of profit that Mr. Willett had.

Mr. Pollock, K.C., for the defendants, said that it was merely 5 per cent. as to a portion and 2½ per cent. as to the rest.

Mr. Matthews said that according to a Parliamentary return dated August 1 down to that date Messrs. Willett had done work to the amount of £161,000. Mr. Willett's establishment charges appeared in the return as £2,700, and the commission, which counsel said was profit pure and simple, appeared as £5,600.

Mr. Dapino, in cross-examination, admitted that in conversation he may have said something to Mr. Herbert Willett about work being done on patriotic terms.

Mr. Pollock, K.C., contended that it was impossible the contract alleged could have been made. The work the defendants did amounted to £152,330, and the profits were nothing like what had been alleged.

Mr. Herbert Willett said that the firm was allowed a commission of 2½ per cent. on the first £40,000 of work, just sufficient to pay expenses and keep the staff together. He did not promise any commission to Mr. Dapino, but referred him to his father regarding the matter.

The jury found in favour of the defendants. Judgment accordingly, with costs.



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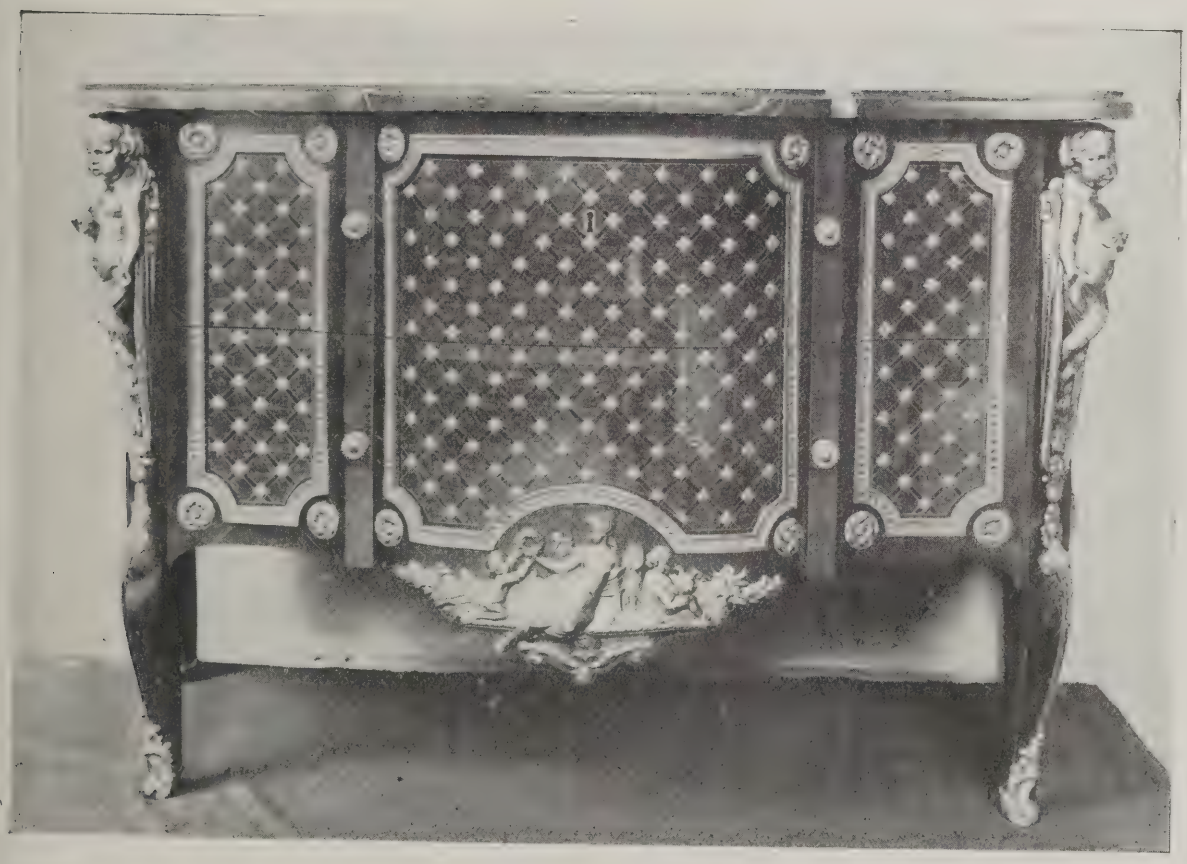
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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, November 22, 1916. Volume XLIV. No. 1142.



FRENCH COMMODE: LOUIS XVI. PERIOD.

THE ARCHITECTS' & BUILDERS' JOURNAL.

NOVEMBER 22, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1142.

EDITORIAL.

SOMETHING akin to the fighting spirit pervades the address delivered by Mr. Edwin J. Sadgrove, F.R.I.B.A., on assuming the presidency of the Society of Architects; which, indeed, is a militant body, but always does its fighting in a gentlemanly way—a tradition that Mr. Sadgrove deftly upholds. For this reason (and for some other reasons) it is not easy to yield unreserved assent to the assumption that absorption of the Society in the Institute would be an unmixed blessing. Union is strength, but opposition certainly promotes alertness and agility, and very probably the Institute is all the healthier for occasional fencing bouts with its young and active rival. Mr. Sadgrove is no doubt sufficiently justified in the claim that "the recent changes and developments in the trend of architectural education and training in Great Britain can be traced very largely to the activity and foresight of the Society in season and out on this question of education and registration." Which is to say that no labour is in vain, although its effects be not obvious and immediate and are sometimes negative rather than positive.

* * * *

Rivalry seems, however, to be carried to excess in the matter of forms of building contract. There are, we believe, three several forms of contract in process of incubation—one by the Institute, another by the master builders, and a third by the Society. There are also rumours of new sub-contract forms; and presently these documents may be shed upon us thick as autumn leaves in Vallombrosa. We hope not. It is all very well for one organisation to say to another, "If you will not, we will," but for three bodies to proceed independently with the same work is not merely to waste effort, but to create confusion and to weaken the authority of all the forms. This is surely a matter in which they might easily and advantageously co-operate, and they might as well do it first as last; for it is easy to foresee that ultimately the three forms of contract will have to be fused into one. In the meantime, not one of them will win a tithe of the confidence that a joint production would command. There is yet time to treat these several forms as mere drafts, for combination into a joint form that would carry unchallenged authority, which is a matter of special importance when such documents come into the law courts.

* * * *

A handsome tribute to the Press, lay and technical, rounds off Mr. Sadgrove's address. He acknowledges the value of criticism, whether it be laudatory or adverse, and he realises that if criticism is to be of any real use it must be honest and outspoken. Merely "to say ditto to Mr. Burke" is less helpful to him and to his cause than on due occasion to indicate, faithfully and with all becoming courtesy, the faults or fallacies in his argument or the weaknesses of his schem That is the principle upon which, we are fain believe, the Press of this country, taking it is a who may truly be said to act; and we may be permitted add that it is the single aim of any criticism of t Government, of municipalities, of professior societies, or of buildings, that is permitted to appear these columns. That it is not always accepted in t spirit in which it is tendered is as natural and inev able as that it sometimes (but, we hope, as rarely the exigencies of journalism will permit) m chance to be based on momentary misapprehensio but that it is invariably written in all good faith, a with the single aim of promoting the interests of t profession, the industry, and the art which it is function and our honour to subserve, we need formally declare. To those organisations which ex for the same object, we give all possible support, a we conceive that this is not least effectual when happens to take the form (always as unpalatable to as it can be to them) of a tonic medicine administe by a friendly hand. We are gratified to find that implication) the new president of the Society takes in the right vein, and we have abundant reason know that he is not alone in this appreciation. do we oracularly assume our own immunity fr criticism; on the contrary, we welcome it, and columns are freely available for it. provided it is te perately and reasonably expressed.

* * * *

A member of the London County Council, speak at its meeting last week, said that "he was not p pared without a protest to let the Government ro about London and, under cover of the Defence of Realm Act, take any parts of the green spaces cover them with monstrosities in wood." Ot members having spoken in the same valiant strai deputation, headed by the chairman of the Cour was appointed to wait upon the Secretary for War the First Commissioner of Works, who must now trembling in their shoes. They have built, and building, on several of London's green spots, an is quite proper that the Council should inquire the matter, lest the Defence of the Realm Act made to cover a multitude of sins—simultaneou with all the greenswards in the metropolis. Like gallant troops, who have trampled to a quagm every acre of common land in the kingdom, the Secretary evidently does not intend to let the g grow under his feet; and he is right; and "They right so to object, and everything is quite correct even the councillor's intelligent anticipation "monstrosities in wood," for "monstrosities" is proper rhetorical expression for all such occasi whether or not it is subsequently justified in fact. this matter he did well to take time by the forel

ecause certain other temporary structures that have een put up in the parks, being really rather neat in esign and very workmanlike in construction, rebut he point. Nevertheless, one prefers the unadorned ite. It is difficult to believe that all these temporary tructures are absolutely necessary; and no doubt the ilitary authorities will be grateful for this opportune eminder of their civil obligations.

* * * *

Regarded as wooden sheds or shanties, the new overnment buildings are good of their kind. ut the use of so much woodwork should have been voided. To erect a large range of wooden sheds in public park, or near a main thoroughfare—or, deed, in the wilderness—is to court disaster from re; and we feel entitled to inquire why, if it was ecessary to build these shanties at all—and it seems o us that there are in their vicinity plenty of ubstantial buildings that could have been com-andeered as other buildings have been—they were ot all built of fire-resisting materials. There are everal proprietary systems of construction and any kinds of materials from which a choice could ave been made, with immense advantage to the omfort and convenience of the inmates, with omparative immunity from fire hazards, and, roviding some unit system had been adopted, with voidance of waste on demolition. Even though the itial cost might be more, there would be additional alue for the money, and, after the purpose of the uildings had been more efficiently served, the dis-antling would leave the materials in a marketable ondition—but little the worse for wear, and fit for asy re-erection.

* * * *

Sir William Lever, in the first of two articles which e is contributing to the "Liverpool Daily Courier," olds that "municipalities must face the task of offer-ig facilities for the erection of better cottage houses suburban districts, the rents of which, together with ie cost of transport of the occupiers to and from their aily work, should be less than the rental demanded r inferior houses in the congested districts." He is f opinion that a municipality should acquire suburban nd in large quantities, at reasonable prices, and ffer it absolutely free for the immediate erection of ttages. He holds that to give free land to ensure ie proper housing of the people is only the application f a principle that has been already adopted in giving ee education, the millions spent in which are largely asted owing to the antagonistic and thwarting effects bad housing. Sir William's is a rather daring roposition, but we should hesitate to declare it nsound. It would give the municipality an oppor-nity of helping the builder instead of competing gainst him to its own hurt and to his, and it would e done at no more expense to the ratepayers than hat accrues from the ill-advised dabbling in building y which corporations have realised such heavy losses. t any rate, the proposal merits very close attention.

* * * *

We print, in another part of the present issue, the port of a year's work of the A.A. Active Service ommittee, which was formed, on the outbreak of the ar, with the object of sending necessities and extra mforts to men connected with the architectural and rveying professions who are serving with the lours, and in looking after the wives and dependents the mechanics who have been recruited from the ilding trades through the A.A. War Service Bureau. rateful letters from the recipients show that the pro-ssional papers (including this Journal) sent out by e committee are as highly appreciated as the eature comforts and garments which have been regularly despatched in the warmly welcomed A.A. parcels. Most of the members of the committee are ladies, with Mrs. Maurice E. Webb at the head, and it is unthinkable that their benevolent activities should be hampered or discontinued for lack of funds. Very little money remains in hand, however, and unless more is immediately forthcoming this excellent work must stop. We feel confident that, for the sake of the four hundred pounds or so which can be so bene-ficently expended, the profession at home will not care to risk creating an impression among its fighting members that the first enthusiasm for them has died down. In proof that it has not, subscrip-tions should be sent promptly to the joint hon. secretaries at 37, Great Smith Street, Westminster. Surely the need has only to be made known in order to be immediately and generously met.

* * * *

In his presidential address, upon which we com-mented last week, Mr. Ernest Newton alluded to the versatility of architects. It is a claim that could be amply substantiated from the records of the varied services that are being rendered by architects in, or in relation to, the present war. That they make splendid soldiers is attested by the many distinctions they have won in the field, including the highest—the V.C. awarded to Eric Frankland Bell, who made the great sacrifice in an act of splendid heroism. Major Phillips Fletcher, whose death also is deplored, won distinction as an intrepid airman; and many other architects, acting either with or for the Forces, have proved that, by temperament and training, they are fit and willing to "go anywhere and do anything." It is gratifying to note that their trained faculties for organisation and supervision, as well as their special knowledge and executive skill, are at length being more clearly recognised and more frequently turned to account by the War Office and the Admiralty. To cite the most recent instance that has come to our notice, we observe that Lieutenant H. Chalton Brad-shaw, whose name is familiar to the profession as that of a winner of the British Prix de Rome, and more especially to our readers as that of the author of several fine drawings that have been reproduced in this Journal, has received a staff appointment in the field survey department of one of our armies in France. Like the late Lieutenant Bell, V.C., Lieu-tenant Bradshaw was a student at the Liverpool University School of Architecture.

GERMAN WAR MEMORIALS.

THE "Architectural Review" for November, just issued, contains an extremely interesting and important article on German War Memorials. It is pointed out that there have been, roughly speaking, three successive phases in the design of these memorials: the first a classical phase, of the early nineteenth century, finding its highest expression in the works of Schinkel and Von Klenze, among these being the monuments to Scharnhorst and Blücher and the Valhallas at Munich, Ratisbon, and Kelheim; the second a phase, of the mid-nineteenth century, when clumsy Renaissance monuments were produced, such as the Victory Column in Berlin; and the third a phase, following the Franco-Prussian War, when Germany became entirely severed from the refining influence of the French, and proceeded from her lowest state of architectural decadence to evolve a modern style of her own, a crude brutal style expressed in such an architectural mastodon as the Battle Monument at Leipzig. There are illustrations of all these in the article, as well as of the wooden statue of Hindenburg in Berlin, and some of the German medals commemo-rative of the present War.

HERE AND THERE.

IN writing about my discovery, "The Architectural Magazine" of 1834-38, I pass over the endless pages of discourse on architectural principles and examples, whereby J. C. Loudon and his contributors endeavoured to raise the standard of English architecture by improving the taste of the carpenter, the lady of the house, and the architect. That is the solid stuff which fills the bulk of the magazine. I pass over it in order to get hold of something more interesting, in the form of comment on affairs and events in the architectural world of the 'thirties, for this is in itself entertaining and has the additional merit of setting up a comparison between those far-off days and our own. And the one thing that stands out pre-eminent in the comparison is that there is, as Solomon of Old said, "nothing new." Eighty years ago architects were bemoaning that their status with the public was not what it ought to be; eighty years ago there was another "Ubique," one "Candidus," who kept up a running fire of personal whims and opinions—"Happening to be talking of styles the other day with a friend, he observed: 'The one which I can stomach least is the roast-pork style. I mean where walls, instead of being rusticated, are merely scored with lines'"; and eighty years ago they were already saying that "this year's architectural exhibition at the Academy makes no very great display of talent, least of all on the part of those who are most known among the profession." So that this world of ours does not really change so rapidly and so tremendously as we are apt to think it does. Now to illustrate this fact by a few extracts from "The Architectural Magazine."

* * * *

In the very first article of the very first number the old-established business of the "expert witness" is dealt with severely, as one of the many abuses from which the practice of architecture was then suffering. The writer speaks of the "disgraceful mode" of giving evidence in the Law Courts, where one surveyor swears that the work is fairly worth £1,630 and the defendant's surveyor swears that £935 is ample payment for it, "and the judge and jury know no more about a building account than a boy of seven years old." Which, of course, is just what is still said to-day. "Another disgraceful practice, which is either owing to ignorance or knavery, is, that some architects deceive their employers by making very pretty and attractive drawings, and reporting that the expense of carrying out these into execution will be about half or two-thirds of what it actually turns out to be." And again we have to note that such things still happen. But the writer has a remedy. He says: "To overcome this evil I would advise the parties intending to build to contract with the architect for his commission as well as with the builder for his work. This might be done in the following manner: If the architect reports that the building will amount to £2,000, his commission should be fixed at £100; and if the work exceed five per cent. beyond his report, it should be arranged that there should be a deduction, from his commission, of five per cent. on the excess of the amount beyond the original estimate. Thus, if the original estimate were £2,000, and the actual cost £2,500, the commission of the architect, instead of being £125 as it would be by the present custom, would be only £75." One cannot say that such a system as this is put forward as commendable to-day, but the very latest of all practices—necessarily an American practice—has a family likeness to it. The idea is primarily to protect the client, but the architect and the builder are equally concerned in it. It works out thuswise: The architect and the builder, instead of being separate, and sometimes mutually suspicious (so that a policeman, in the person of clerk of works, needs to be appointed by the architect to look after his own and his client's interests), become one indivisible, a harmonious pair. The client arrives and wants to spend £2,000, and no more, on a house. The architect interviews him, gets to know precisely what sort of a house he wants, and in due course prepares a design. Next the builder is introduced upon the scene, and an exact estimate is worked out. The client is shown the design and told that his house will cost not more than £2,000. He approves the design—not verbally but in writing, and at different stages he is required to approve everything else in writing. The house is built and the architect takes 5 per cent. of the total and the builder 10 per cent on the cost of materials and labour. If £2,000 is exceeded, so much the worse for the architect and the builder, who are supposed to know their business and to be able beforehand to estimate exactly. If, however, there is a saving of £100, the client pockets this balance, while the architect and the builder receive their 5 and 10 per cent. respectively on £1,900. In brief, payment is at an agreed rate of commission on expenditure with a fixed maximum for the client. The architect and the builder have no interest in exceeding the cost, for the simple reason that they will not get paid for the extra, while the client knows definitely beforehand that his house is going to cost him not more than £2,000; provided, of course—and this is one of two very important provisos—that he does not give signed instructions for any alteration or additions, and also that nothing occurs during the carrying out of the work which involves extra cost through no possible fault on the part of either the architect or the builder: such as the discovery, while the foundations were being dug, of a wholly unsuspected stratum of mud. I have not seen an actual specimen of these new conditions of contract but it is obvious that in certain contingencies these must protect the architect and the builder: otherwise it is all plain sailing. The client has his house for £2,000 and lives happily ever afterwards, and the architect and the builder each receive what they expected to receive, and enjoy the contentment of conscience expressed in the maxim, that "virtue hath its own reward."

* * * *

Returning, however, to another topic of interest in "The Architectural Magazine," I find in the issue for June, 1834, a satirical article "On the Gin Temples of the Metropolis," in which "Cynicus" wishes to make two or three points. "The first is," he says, "the prevailing taste of decorating the attic story with every description of meretricious ornament; while all between the attics and the shop entablature is, in many instances, allowed to remain in primeval nakedness; a circumstance intended, no doubt, by the original inventor, to illustrate the effects produced by the numerous libations poured out to the goddess, which, at the same time that they produce crude vapours and frothy conceits in the upper story of her votaries, leave the lower parts in a state of all but perfect crudity. The next observation I have to make is on the very late and liberal custom of hanging out a huge lamp at the entrance door. . . . A happy idea! and one which serves as the purposes of a sign-post to a blind man; for what of their numerous tribe of worshippers would understand the lamp as a beacon light, warning them of their danger: or that it was intended, like Bardolph's nose, as a *memento mori*, reminding them of fire internal in this world, and fire eternal in the world to come!" To which the editor adds a footnote saying that "Notwithstanding the amusing observations of our correspondent 'Cynicus' we are friendly to the gin temples, as they are called; because



MONUMENTAL ARCHITECTURE (SERIES II.). I.—GORHAMBURY HOUSE. HERTFORDSHIRE.

SIR ROBERT TAYLOR, ARCHITECT.



STUDENTS' DRAWINGS (SERIES II.). XXXVIII.—ITALIAN RENAISSANCE COMPOSITION.

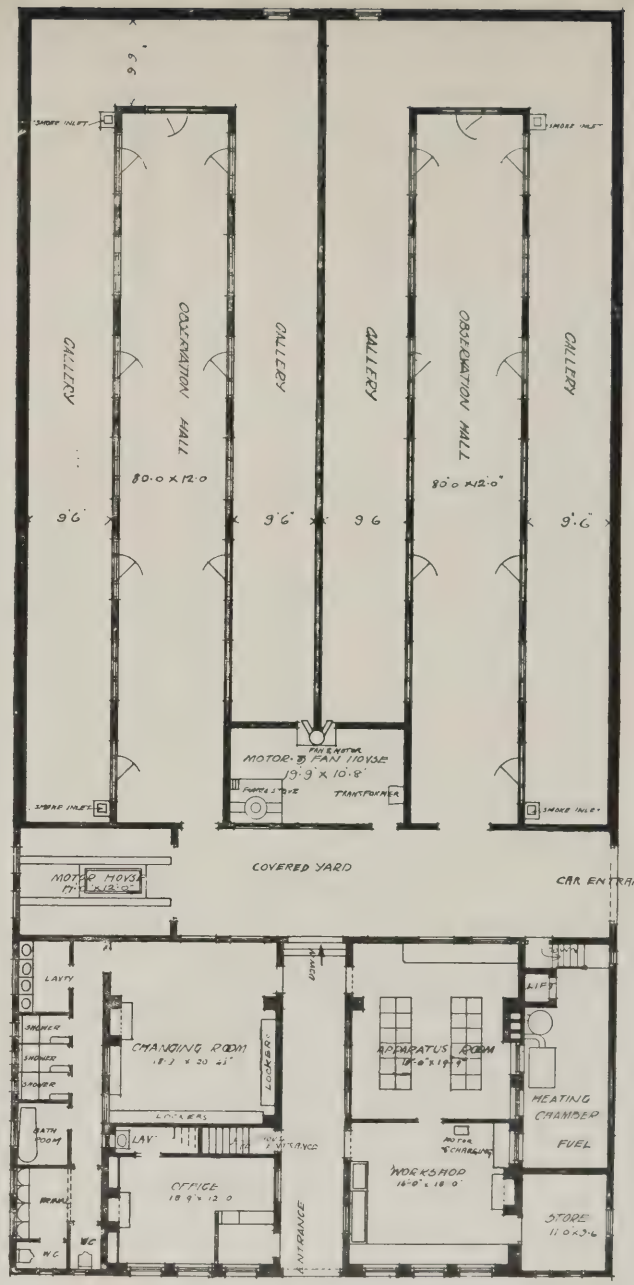
BY W. B. WIGGLESWORTH.



Front View.



View in Gallery.



Ground-floor Plan.

SCIENCE AND TECHNICAL BUILDINGS. XX.—MINERS' RESCUE STATION, RHONDDA VALLEYS.

TEATHER AND WILSON, FF.R.I.B.A., ARCHITECTS.

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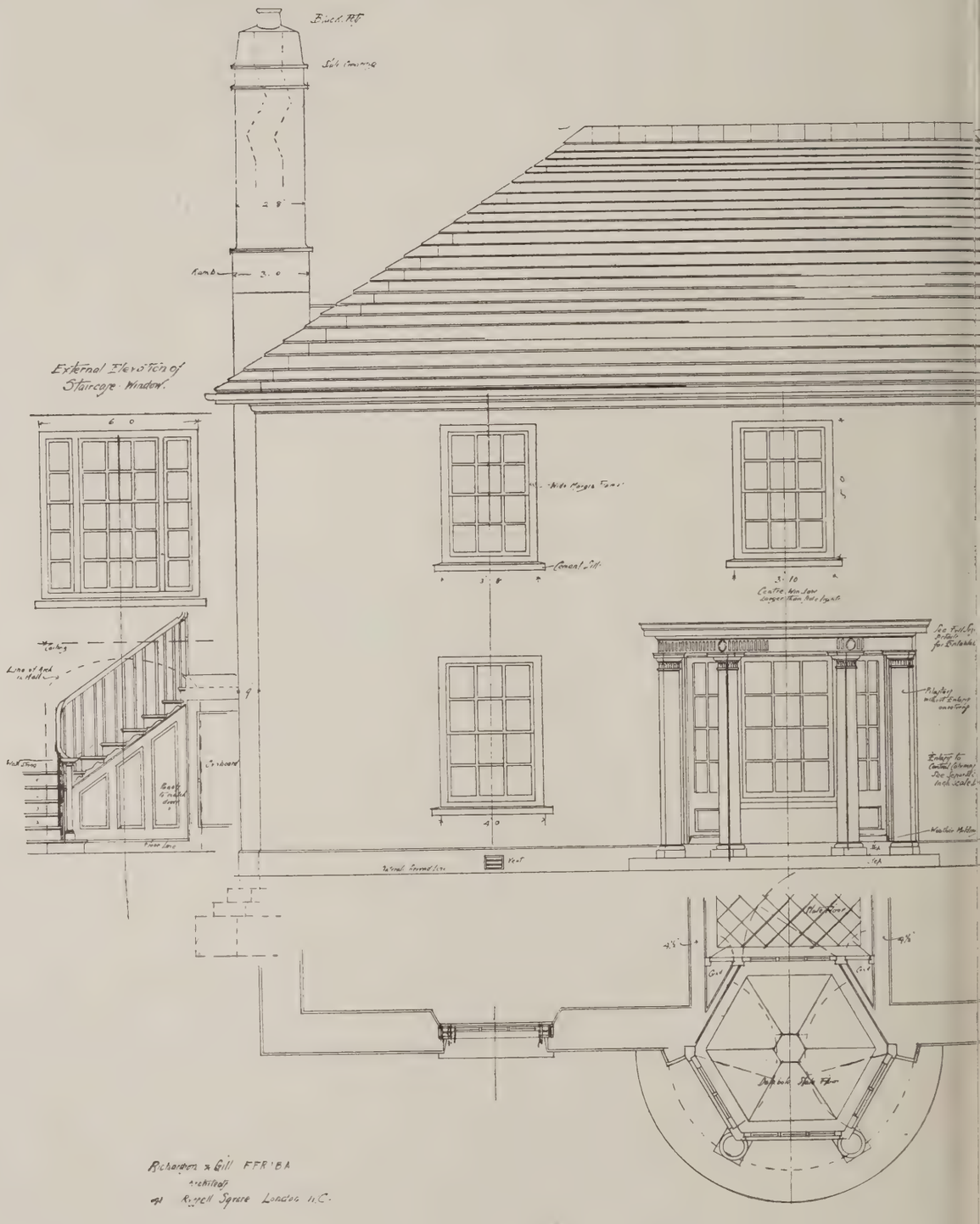
CURRENT ARCHITECTURE (SERIES IV.). VIII.—NEW PREMISES FOR THE HARTLEPOOLS CO-OPERATIVE SOCIETY, PARK ROAD AND STOCKTON STREET, WEST HARTLEPOOL.

L. G. EKINS, LICENTIATE R.I.B.A., ARCHITECT.

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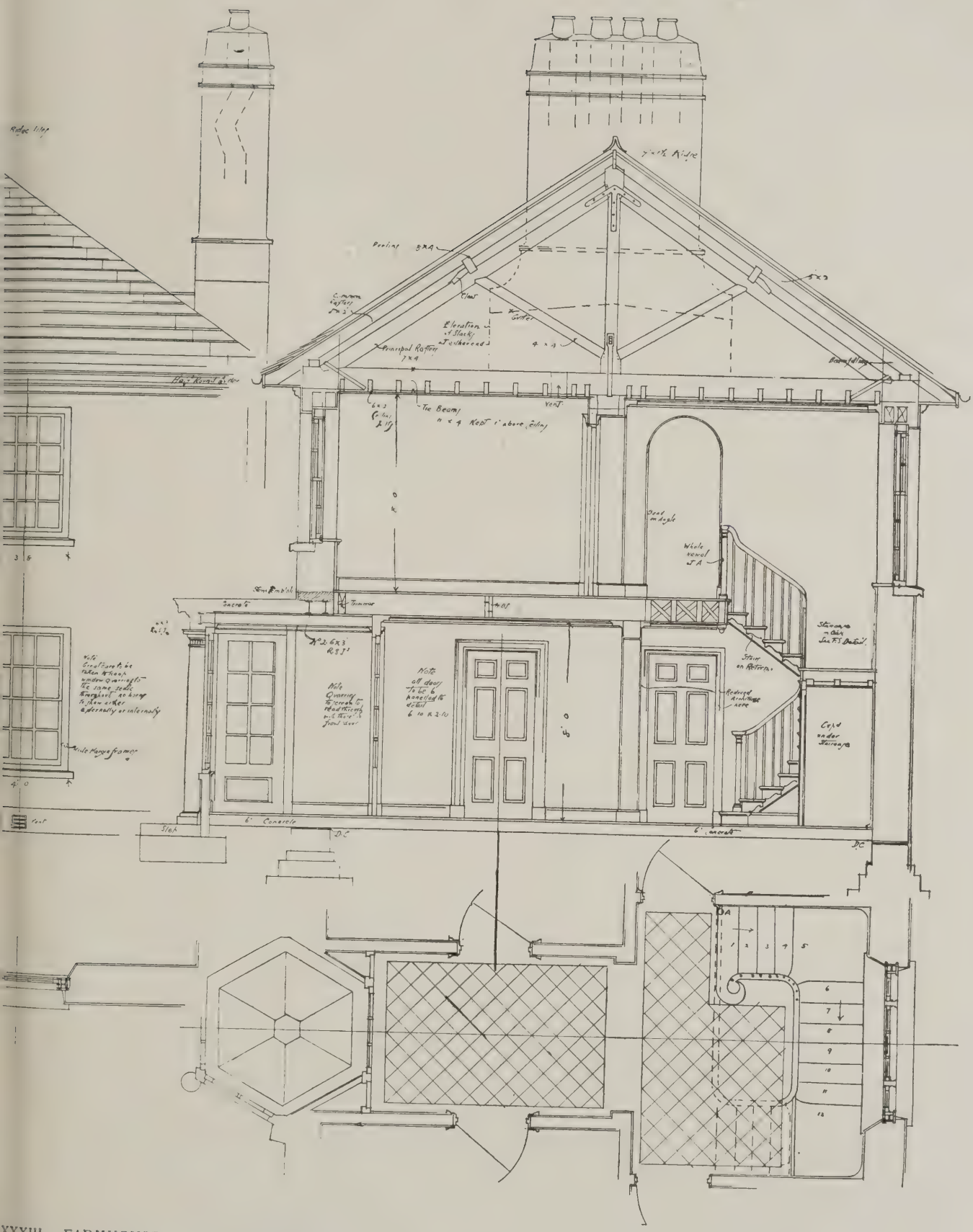
NEW FARM HOUSE BELLEVER DEVON
FOR THE DUCHY OF CORNWALL

Scale Half an Inch to a foot



ARCHITECTS' WORKING DRAWINGS (SER

RICHARDSON AN



XXXIII.—FARMHOUSE AT BELLEVER, DEVON.

R.I.B.A., ARCHITECTS.

look upon them as the first dawning of a more enriched and varied taste in street architecture than we have hitherto had in London." Here, then, are facts and food for thought. First be it noted that the advent of the railway and the decline of the stage coach meant the end of the old "inn," with its respectable face and unobtrusively comfortable interior, beloved of Mr. Pickwick, and the beginning of the "pub.," which we of this present day, after nearly a century of sufferance, are at last endeavouring to replace by something better. But, apart from the social aspect of this matter, see how "Cynicus" gives us the date for the decline of the architecture of the inn—which decline, we may take it, was rapid after the first quarter of the nineteenth century had run its course. Those monstrous lamps came in with the new manner of lighting with gas (Pall Mall was the first London thoroughfare to be lighted with gas lamps, in 1814, and Grosvenor Square, the stronghold of Conservatism, appropriately the last, in 1842); and to this very day these garish objects, costing no little sum for cut and figured glass, continue to disfigure our street corners. And as the editor of "The Architectural Magazine" accepts, in 1834, these lamps and the display of similar taste on the "gin temple" facades as "the first dawning of a more enriched and varied taste in street architecture," we can see exactly when architectural design was beginning to go to the dogs; with which before us in the first volume of "The Architectural Magazine" we are well prepared for the shock of such other contributions as "A Design for a Villa in the Norman Style" and "A Few Observations on Anglo-Norman Architecture and its Applicability to Modern Ecclesiastical Edifices."

UBIQUE.

THE PLATES.

Gorhambury House.

IN the middle of the eighteenth century the figure of Sir Robert Taylor occupied the centre of the architectural stage—a fact apt to be overlooked, and, excepting the encomium by Gwilt, who bracketed this talented sculptor-architect with Paine, scarcely noted. This is attributable to the regal austerity of his work, which provided a hiatus in the tradition between the products of the earlier Palladian school and the pronounced French sympathies of Sir William Chambers. Taylor's exterior work is always expressive: it has quality of surface, proclaiming an unrivalled knowledge of stone, for the architect was the son of a leading stonemason, who, in his day, contracted for many London buildings. The interiors designed by him, on the other hand, are spacious and ornate, for here he allowed full play to his passion for sculptural forms and decoration. Long before the ubiquitous Adam Brothers came south to captivate the fashionable world with their Doric fluency, Paine and Taylor were refining the Palladian vernacular and reducing its sinuous forms to terms of masculine Classic formality. This is of especial interest to-day, because many are prone to consider that the famous Scotsmen were the sole sponsors of that particular form of decoration to which their name has since been attached. Gorhambury House, the subject of our plate, introduces the residential county of Hertfordshire, which, in the middle period of the eighteenth century, became very popular among the nobility—a proven fact when we consider that Ware designed Wrotham Park, for the Byng family. Paine built Brocket Hall, and Taylor found scope for his ability in a number of county mansions. About 1750 Taylor was designing Gopsall Park, Atherstone, for Lord Howe, a work followed six years later by extensive alterations to the Grove, near Watford, and Gorhambury, two miles north-west of St. Albans, for Viscount Grimpton. For the main elevation of Gorhambury the architect selected a Corinthian treatment with capitals of Coade's stone. This feature forms the centre between two plain wings, the latter being built of brick and stuccoed with Roman cement. The house was in course of erection from 1778 to 1785. In Gorhambury Park there are one or two brick cottages after the architect's particular manner, and there stood until a few months ago a cottage ornée, with thatched roof and trellis-camed windows, which was indubitably one of Taylor's minor essays. This charming design unfortunately fell a victim to fire.

Italian Renaissance Composition.

This design, by Mr. W. B. Wigglesworth, is an example of second-year work in the Architectural Association School of Architecture. The Church of the Salute and St. Mark's Campanile are seen through the archway. The original is a very vigorous piece of drawing, the shadows being well handled and the colour clean and bright.

The Rhondda Valleys Miners' Rescue Station.

This building has been constructed and equipped for the training of men for rescue work in the mines of the Rhondda Valleys and neighbourhood. The walls are built of stone, cement rough-casted, and whitened externally; the sloping roofs are covered with boarding, felt, and slating, and the flat roofs with asphalt. The first floor, flat roofs, and beams are of reinforced concrete. The scheme of the building comprise three divisions: 1. The administrative portion, containing the office and men's changing room, lavatories, shower baths, urinals, and closets on the left of the main entrance, and the apparatus room, workshop, store, and heating chamber on the right. Access is obtained to the observation halls, galleries, and machinery house through a covered court, at one end of which is the garage and at the other end a gateway entrance for the motor-car, this car being provided for the purpose of conveying men and rescue apparatus to the scene of a colliery disaster. 2. The training portion, consisting of two distinct sets of observation halls and galleries, motor, and fan house. 3. The residence for the instructor in charge, on the upper floor, entirely separate from the other departments. The four galleries are covered by reinforced concrete flats for the purpose of rendering them thoroughly smoke-proof, and the observation halls are covered by ordinary roof slopes. The changing room, which is also used for a messroom, contains a separate steel and wire locker for each man's clothes, and is fitted with a range for cooking and warming food. All lavatories, baths, and showers are provided with fittings for mixing hot and cold water. The apparatus room is fitted with cupboards for chemicals and stands for hanging complete sets of gas-proof apparatus for the men to wear when in the mine galleries. The equipment also comprises four sets of reviving apparatus and an ambulance box. The workshop is fitted with an electric refill pump and plant for charging the accumulators for the hand lamps. Windows are provided between the observation halls and galleries, so that persons in the halls can see into the galleries. Smoke-proof doors are also fitted so that anyone in the galleries pushing or falling against the doors will cause the latter to open automatically. The galleries are timbered to represent an underground colliery road, and contain rails and trams such as are used in coal mining. A smoke apparatus in the motor and fan house distributes, by means of underground flues, smoke and fumes to the galleries. A powerful motor-driven fan is also fixed in the motor and fan-house the inlets being arranged so that the galleries can be filled with or emptied of smoke, together or independently, by means of the fan.

Electric current for lighting and power is taken from the mains of the South Wales Electric Distribution Company at 440 volts and transformed in the fan house to 230 volts. The general building contractors were Messrs. Nibblett and Davies, of Cardiff. The architects, responsible for the building and plant, were Messrs. Teather and Wilson, FF.R.I.B.A., of Cardiff.

New Premises for the Hartlepools Co-operative Society, Ltd.

This building has a reinforced concrete skeleton, clothed with Portland stone on the street frontages. The main feature of the Stockton Street front is a tower rising to a height of more than 100 ft., the upper part enclosing a tank with a capacity of 10,000 gallons. This contains the water supply for the automatic sprinklers with which the building is fully protected against fire. The interior of the arcade has been treated in harmony with the general design, the facings being in cream terra-cotta, supplied by The Leeds Fireclay Co. The paving to the arcade is black and white marble terrazzo. Between the basement (which extends under the whole of the main building) and the yard goods hoist is a subway 6 ft. wide, which connects the loading and unloading dockways in the yard with the heart of the building. The ground floor provides accommodation for a fine range of shops and offices. The premises throughout are heated by radiators on a low-pressure hot-water system, carried out by the engineering department of the Co-operative Wholesale Society, Newcastle-on-Tyne. The artificial lighting of the premises is quite a feature, and has been carried out in accordance with a very efficient scheme prepared by the British Thomson-Houston Co., of Rugby and Newcastle, and with fittings supplied by them. The execution of the electric installation was entrusted to Mr. Edgar Phillips, of West Hartlepool. The engineers for the two goods hoists and passenger lift were Messrs. Wadsworth and Sons, of Bolton. Messrs. John Curtis and Son, of Leeds, were the contractors for the shop fronts. The internal shop and office fittings were executed by the building department of the Co-operative Wholesale Society, Manchester. The board room table and chairs, in oak, were carried out from the architect's designs by the Co-operative Wholesale Society's cabinet works, Pelaw-on-Tyne. The general contractors for the building were Messrs. T. Hilton and Sons, of Bishop Auckland. The architect responsible for the general design of the building and its internal fittings and furnishings was Mr. L. G. Ekins, Licentiate R.I.B.A., architect's department, Co-operative Wholesale Society, Ltd, Newcastle-on-Tyne.

Farmhouse, Bellever, Devon.

This house, which will form the residence of a farmer having control of a block of farms, is now being built on the Duchy of Cornwall estate in connection with works of agriculture and cattle breeding arising out of the War. In designing it the endeavour has been to follow the traditional character of classical architecture in the West Country. The walls are of local stone, rough-cast, the roof will be covered with Delabole rag slates, and the hexagonal porch, which is the chief feature of the front elevation, will be carried out in concrete. Messrs. Richardson and Gill, FF.R.I.B.A., of London, are the architects.



L. G. EKINS, LICENTIATE R.I.B.A., ARCHITECT.

ARCHITECTURAL TOPICS *

Passing from generalities relating to he war, Mr. Sadgrove, F.R.I.B.A., in is presidential address to the Society f Architects, dealt with matters re-ating to the society and its oppor-unities for further expansion and :ork. In regard to registration, he aid, it is not the principle, but its scope, nd the method of carrying it into effect, pon which we are divided. There is also good deal to be said in favour of the tandardisation of forms of contract and ther professional documents, and the revention of over-lapping generally. The ociety therefore approached the Council f the R.I.B.A. suggesting a conference f representatives, and in due course eceived a reply to the effect that the :ouncil of the R.I.B.A. was precluded :om discussing controversial questions uring the war by the pledges given to ıe general body of its members.

Is the society also to stand still during ıe war and take no further steps in what e consider to be the interests of our ıembers and of the profession? I say mphatically no, and that we ought uring this coming session to consider ow best we can proceed with our schemes, possible without disturbing the friendly :lations which so happily exist between ırselves and other professional bodies.

This society has made overtures for o-operation well knowing the delicacy ıd difficulty of the task it undertook. he society being itself unhampered by :strictions imposed by the members, and s overtures not being successful, it is ıreasonable on the part of our friends expect that we can do otherwise than ·oceed on our way with the conscious-:ss of having first done everything ossible to bring about the co-operation ıd unity of action which we desire.

Registration and Education.

In regard to registration, there are chitects whose opinions we value, who ıld that to seek statutory powers for this ırpose is to level down the profession, ıd that the way to accomplish our object to level up by beginning at the top and ising the standard of education and ıalification. These good friends over-ok the fact that the full title and tention of the Society's Bill is "The atutory Education and Registration of chitects." First educate your architect, d registration becomes merely the echanical process necessary to give him assurance that, having spent much ıe and money on his education, he will t have wasted either, as is the too mmon experience at the present time. luntary education does not go far ough; it holds out no certainty, and es little encouragement to persevere, ıply because anyone can pretend to ıctice as an architect without passing ıminations or possessing any qualifica-ns. Human nature being what it is, re must be compulsory education in registration scheme planned to cover whole field.

The society's proposed Act is not yet on statute book, but the recent changes l developments in the trend of archi-tural education and training in Great tain can be traced very largely to the ivity and foresight of the society in ging away in season and out on this stion of education and registration.

There are usually two ways of accom-hing a thing, and opposition to a sound scheme not only stimulates its promoters to further effort on their own lines, but induces the opposition to suggest and adopt other means by which in their opinion the object may be obtained, if by a longer route. That is what is taking place at the present time in this matter, and the society can fairly say that its efforts in the cause of architectural education and registration are already bearing fruit.

The Registration Bill is still in its draft stage, and while it embodies a principle which has never been abrogated, it is in my view somewhat unwieldy on a few points of detail, and I think a committee of the Council might very well usefully occupy its time in redrafting the Bill on certain main lines which I do not propose to touch upon here, but which would, I believe, have the effect of producing a measure acceptable to the large majority of those who do not at present see eye to eve with us on certain points. I see here great possibilities ahead for future developments and progress.

Forms of Building Contract.

The society's form of building contract has been on the stocks for some time, and we have now, owing to circumstances previously referred to, only to decide in principle whether it is to be issued or not, for some further progress to be made. I do not myself see that the Council have any alternative but to comply with the members' request for the issue of the document. After all, it is intended merely as a basis upon which building contracts may be framed. It is admittedly in advance of any document of its kind, and I hope to see some further progress in this direction before very long.

Ancient Lights.

The question of an amendment to the law of ancient lights on lines suggested by the society years ago has been revived outside the society. This is a healthy sign, and presumably those who are agitating in this direction would be prepared to co-operate with the society and other interested bodies. The appointment of a tribunal for the settlement of contentious points in advance ought to appeal to all concerned, and should not be beyond the powers of the profession to accomplish. It is another matter which might well receive consideration by the Council during the war.

Architects' Fees

The present scale of architects' fees is, in my opinion, altogether inadequate, and apart from this it appears to me to be wrong in principle for an architect to be paid on a commission basis, for obvious reasons which I need not labour here. What is wanted is not a revision of the present scale so much as an alteration in the system of charging. Here is another problem for the society; and there is also the question of conditions of competition, in itself a very large subject to tackle.

The Newer Methods of Construction.

Another matter which the society is already dealing with is the question of new methods of construction, the more extended use of by-products in connection therewith, and the local manufacture and utilisation of certain materials for use in building. This may involve extensive scientific research, and the society is co-operating in this direction with the Government Research Committee. The deeper one goes into this matter, which is one intimately connected with reducing the cost of building, the more one is impressed with the necessity for some relaxation of local building by-laws and for more elasticity in their scope and application. These regulations must be adapted to modern requirements, and made so elastic as to cover and provide for new developments, and so obviate the necessity of making amendments to the regulations from time to time to meet special circumstances. Local authorities should be given greater discretionary powers within their areas. I feel sure that, with a little organisation and co-operation between professional bodies, it would be possible to impress upon the Local Government Board the desirability of making changes in the direction indicated.

Signed Buildings?

There is just another matter which may fall within the scope of the society to take up and that is the proper acknowledgment of the architect in any publicity relating to a building for the design and erection of which he is responsible. One frequently sees the announcement in the Press of the formal opening of a building where everyone concerned is in the limelight except the architect. Possibly architects are themselves to blame for this sort of thing, in not insisting on proper recognition, but why should they be more diffident than other artists? The architect can only be known by his works if his name is associated with them, and it might be well for all concerned if this association could be of a permanent character for all to see, so that by his works he could be judged as well as known. However that may be, I think it is the duty of architects to see that on such occasions the profession which they represent should have a place of honour.

The society has been in existence for thirty-two years, and was founded for the purpose of bringing about certain reforms, principally registration at that time, but other pressing questions have arisen and developed in the meantime. The way of reformers is proverbially hard, and the society has had to outlive much misrepresentation and prejudice, and to learn to take and to give hard knocks in pursuit of its objects. The fact that after two years of working under war conditions it finds itself with its membership practically undiminished and its financial position enhanced is in itself evidence of the businesslike way in which its affairs have been and are being handled. The society has established a reputation as a factor and influence to be reckoned with in professional matters out of all proportion to its comparatively small membership, and it is obvious that in order to accomplish any one of the reforms indicated we must have more and more members. We want more men, and there are plenty of architects at home who can join up with us now and help us in getting on with some of the problems before us, so that when our fighting colleagues come home they may find that the society has not been unmindful of their professional interests in their absence, but has done what it can to remove some of the disabilities which existed when they left, and to rid the profession of some of those abuses which have existed for so long and which only require earnest and combined effort to wipe out or amend.

Thanks to the Press.

I cannot close without an expression of appreciation of the good services which the technical and lay Press have rendered to architecture and to the profession in the past. It is within their power to control very largely the destinies of any schemes

* Extracts from the address by the new President of Society of Architects, Mr. Edwin J. Sadgrove, I.B.A., November 16.

of reform by influencing public opinion for or against them. A great responsibility therefore rests with the Press which they have invariably recognised by the extremely fair and impartial manner in which they have handled questions of professional and public interest as affecting architecture and architects. The society asks nothing better than that the searchlight of publicity should be brought to bear upon its proposals for reform so that any defects may be made clear and some remedy sought for their amendment.

DUBLIN REBUILDING.

In the House of Commons on November 9, Mr. Byrne asked the Chief Secretary if he had received a resolution from the Dublin Fire and Property Losses Association expressing dissatisfaction at the delay in settling the claims of the sufferers; if he was aware that six months had now elapsed since the destruction of the property in Dublin and no payment on account of buildings had yet been made, and if he would say when they might expect to be paid?

Mr. Duke: I would refer the hon. member to my replies of October 18 and 24 to the questions of the hon. members for the Harbour, St. Stephen's Green, and College Green Divisions of Dublin.

Mr. Byrne: Having regard to the dates of the questions and answers, will he not consider the advisability of paying these people immediately? Is he aware that the building trade in Dublin is in a deplorable state and that there are hundreds of men idle owing to places being burnt down?

Mr. Duke: This is a matter which has been the subject of a great many consultations and deputations, and so far as I am concerned no time has been lost in dealing with it.

Mr. Brady: May I ask whether, if an owner is prepared to rebuild and has his plans ready the Government will make the advance recommended by the Building Commission?

Mr. Duke: I could not commit the Treasury to a recommendation of the Committee, but, as to the other part of the question, if there is an owner in a position to build and whose building depends on the money which has been pledged to be advanced being forthcoming, it will be available in the ordinary way in which moneys are advanced for building purposes. I will add that a case arose the other day in which this had to be considered and it was thought to be a reasonable mode of dealing with the difficulty that the Treasury payment should be made against a certificate in the manner in which it was ordinarily made when money was being provided from an extraneous source.

Mr. Brady: If specific cases can be given to him wherein owners are prepared to start building to-morrow, say, will the money recommended by the Building Commission be advanced to such owners on certificates and will he tell us or the owners how much in each case will be the amount of the grant?

Mr. Duke: I am still not able to commit the Treasury in accepting en bloc the recommendations of the Committee. Those recommendations in their powers will, so far as I understand the matter, be acted upon by the Treasury, but as to the other matters of procedure, when there was a building owner who was ready to build no difficulty would he put in his way by withholding the amount which has to be provided from public funds.

THE LATE MR. PHENÉ SPIERS.

At the opening meeting of the session of the Institute the hon. secretary, Mr. E. Guy Dawber, having formally announced the death of Mr. R. Phené Spiers, made the following remarks: Of the merits and attainments of Mr. Phené Spiers I need not speak in this room. His work and influence as Master of the Royal Academy Architectural School, his special gifts for research, his literary industry, his rare skill as a painter of architectural subjects, are known to us all. I would commend to your notice the very interesting memoir of Mr. Spiers, by Professor Lethaby, in the current issue of the "Journal," in which eloquent tribute is paid to his personality and genius. Mr. Spiers served on the Council of the Institute for fifteen years, was for twenty-two years a member of the Literature Committee, and for eleven years its chairman. He was the author of numerous Papers in the Institute "Transactions," and a valued contributor to our debates. I beg to move the following resolution:

"That the Royal Institute of British Architects do record its high estimate of the valuable and productive labours of its late distinguished Fellow, Richard Phené Spiers, for the advancement of architecture, and its grateful appreciation of his eminent services as a member of Council and of the Literature Standing Committee; and that the Institute do record its sense of sorrow at his loss, and do offer to his near relatives its sympathy and condolence with them in their bereavement."

Professor Beresford Pite, in seconding the motion, said: Mr. Spiers was in a personal relationship to very many members of the profession; at the Royal Academy Schools generations of us knew his personality very well. And even though it may seem strange to say so, in the somewhat remote days when I sat there, Mr. Spiers seemed to belong to a past tradition, that of the old Central European school of architectural thought and culture. The skies have changed, the horizon is altered, and the school which Mr. Spiers then represented is practically again the dominant school of architectural thought. The fact is that Mr. Spiers's scholarship and learning, his taste and abilities as an architect, partook of the permanent, rather than of the ephemeral qualities of architectural studentship; and it is to be lamented, I think, that he has left no important public building to commemorate a memory which is certainly a very important and dear one to those who knew him. Of Mr. Spiers's ability as an architect I think those of us who knew him well have no doubt at all. The fact that he was able to preserve a clear judgment through the stormy period of the Gothic revival, and to maintain his seat in the Royal Academy School when the atmosphere was certainly very strange to his school of thought, is, of course, a testimony to the value of his character. But if I recall to the members of the Institute the remarkable design he submitted in the heyday of the revival, of the Church of the Sacré Cœur, Montmartre, Paris, in conjunction with Mr. C. J. Phipps, we shall recall a design which would do credit to the most modern school of French thought in our present English period, for the sphere has altered, and the design which Mr. Spiers made, forty years ago now, would be almost fashionable to-day. I think we should also bear testimony to his self-sacrifice. Some few years ago, when a testimonial was presented to him on behalf of his former student friends, he devoted the bulk of it to th founding of that very important collectio of architectural drawings at South Ke sington known as the Spiers Collectio and which will do something to har down his work.

And there is another element of h character, and a somewhat important on and that is that he was a very influenti medium between the profession home and architects abroad. The was something in Spiers which alwa attracted the attention of the foreigne and one has known of foreigne who have come to architectural co ferences in England for the special pu pose of meeting Spiers, just as on a li occasion they came to see Walter Cran We have lost a very important channel communication with the profession on t Continent in losing Spiers, and I am su our colleagues abroad will share the co dolence which we are expressing to h relatives. We had hoped that some r cognition of his great services to the Roy Academy would have been bestowed up him. Also we hoped that he would ha lived to receive, shortly, some further cognition from this Royal Institute of t great work he did for the profession, bo at the Royal Academy and here, throu a long generation.

EFFLORESCENCE ON BRICK WORK

Efflorescence on brickwork is formed a process known as saltpetering, a varies in its chemical composition as in appearance, for it can be yellow or gre besides white. It is generally most noti able in places liable to dampness, such rain-water heads, eaves, window-sills, a other places where rain is liable to so into the bricks.

The crystals that form on the surfa chemically analysed, prove to be sulphat such as potassium sulphate, sodium s phate, calcium sulphate, magnesium s phate, these varying according to circu stances. Sulphate of magnesia is gener found in much greater quantity than sulphate of lime, as it is far more solu in water. If sea water or sea sand is u in the making of bricks, chlorides almost sure to form, as potassium chlo and sodium chloride. In a few extre cases it has been known for efflorescen to form by the absorption of ammonia fr the air.

With the exception of calcium sulph all the salts above mentioned are rea soluble in water and most of them exce ingly so, but notwithstanding the rela insolubility of calcium sulphate, this c pound is the most fruitful cause efflorescence, which is much less rea washed off by rain than that resulting fr more soluble salts.

The cause of efflorescence is someti due to the composition of the brick stones, and even sometimes to the mor and may be classified as follows:

(1) The use of clay containing sol salts. (2) The use of clay tempe water containing soluble salts. (3) formation in the kilns of soluble salts the oxidation of minerals in the clay by the reaction of sulphurous kiln g on the clay. (4) The introduction soluble salts into the bricks after burn generally from the mortar employed.

The effects of efflorescence are not unsightly, but they injure the surfac the wall, leaving damp patches, and it eat through any coat of paint that has b applied after the efflorescence has

mmenced, and has been known to break f pieces of material and disintegrate the rface of the wall.

Efflorescence can be avoided (says A. edfern Cornwell in the November issue the "Architectural Record" of New ork), providing suitable brick and mortar e used and the constructural part of the ilding is carried out as it should be, ith water-tight gutters, good cornices, d no leakage of any kind from any ace.

If after all these precautionary measures ve been taken efflorescence does occur, the surface may be treated by the application of alternate washes of soap and alum solutions in the proportions of 2.2 pounds of hard soap per gallon of water to one pound of alum per gallon of water. Instead of using common alum, it is more efficacious to employ aluminum sulphate in the alum wash. Surface deposits due to calcium sulphate and therefore not carried away by the rain can be removed by scrubbing the face of the work with hydrochloric acid diluted with about five times its volume of water. The brickwork should be thoroughly moistened before the acid is applied, and after washing the surface with water to remove the traces of the acid. Another method is to wash down with a wash of Venetian red and levigated coke breeze.

To cover the wall with a wash of powdered stone or brick-dust, sand, and water has had excellent results in removing the crusting, but it will only last for a short time and will have to be repeatedly renewed. The efflorescence will not be so marked after each application and should eventually disappear when the pores have been completely filled up.

[Efflorescence arising from the mortar may be prevented by mixing with it one of the proprietary waterproofing preparations.]



GARDEN FORECOURT TO A SMALL COUNTRY HOUSE.
E. PRENTICE MAWSON, ARCHITECT.

R.I.B.A. GENERAL MEETINGS, SESSION 1916-17.

The following list of forthcoming general meetings of the R.I.B.A. is extracted from the supplement to the Kalendar:

December 18.—Business: Election of members; nomination of candidates for membership.

January 8.—Business: Election of members.

February 5.—Ordinary: Announcement of the Council's nomination for the Royal Gold Medal; nomination of candidates for membership.

March 5.—Special and business: Election of Royal Gold Medallist; election of members.

May 7.—Annual general meeting: Presentation of annual report; nomination of candidates for membership.

June 4.—Business: Election of members; election of Council and standing committees.

June 25.—Ordinary: Presentation of Gold Medal.

The R.I.B.A. Kalendar.

As a measure of economy during the present period of stress, the Council of the R.I.B.A. have decided not to issue the Kalendar this year, but to publish instead a supplement to the Kalendar last issued, giving the dates of general meetings, committee meetings, the examinations, and other fixtures for the session 1916-17, together with list of new members and students, of members and licentiates whose addresses have been changed since September, 1916, and of members and licentiates deceased since the last issue of the Kalendar. For other information last year's Kalendar holds good, with the exception of certain changes in the examinations, full particulars of which have appeared in the Institute Journal and in the professional Press. The officers, Council, and standing committees elected last year remain in office until the close of the session 1916-17, as decided by a resolution of the general body passed on March 13, 1916, and approved by the Privy Council on April 10. The price of the Supplement is one shilling.

A GARDEN FORECOURT.

The illustration on this page shows the garden forecourt to "Hest Bank," near Lancaster, Mr. Prentice Mawson's own house. It is interesting as an example of a formal lay-out on a small scale.

ALTARS AND CHURCH ORNAMENTS.

After all that has been written in recent years on the history and development of altars and other church ornaments we ("Church Times") are surprised that there are still so many capable artists who do not seem to have learnt more about the limitations that long tradition and the exigencies of use have set to the fashioning of these things. Surely the test of true art is that it must impart beauty to an object without detracting from its meaning or usefulness. Art must be a fuller expression of the reality of all it touches, and the true artist will enter into the spirit of the surroundings within which he has to work. Some of the best art has grown up just because of certain general restrictions. For example, Moorish art, which may not represent animals. Stained glass probably developed because of the cold and darkness of northern lands that drove men to have windows which they afterwards learnt how to make beautiful. Of course, limitations can be overdone and may be a real hindrance, but moderate limitations are more productive than unlimited license.

The Christian altar shows variety of treatment in different times and places, but certain general principles underlie most of its forms. It is true that under the more paganised Renaissance in the West, or under the influence of the wish to spread local Italian customs, or stress of poverty or of modern commercialism, and, of course, the more violent kinds of Puritanism, many altars have become artistically—and, indeed, liturgically—degenerate, but there ought to be little difficulty in discerning and avoiding such types.

In the case of the Roman communion, rules and customs dating only from Renaissance times often make the construction of an artistically satisfactory altar very difficult. It often puts a great strain upon the artist to have to work under such peculiar limitations as we find here. But with one exception the altars we are considering are Anglican, and free from these particular difficulties. That some Anglicans wish to assimilate everything to Roman practice does not alter English tradition or English Church law or the more general practice of the Church universal. Even in the case of the Roman altar, we must remember that it serves its purpose better if the rules of that communion are strictly adhered to than if they are broken. For example, it is artistically a disadvantage to have a very shallow or narrow altar and to break up the reredos with a tabernacle. But if a tabernacle be required, the altar must be made narrow and the limitations as to the reredos must be worked to. Yet the Roman authority does not require a tabernacle over every altar, though we believe a decree of the Congregation of Rites of 1892 assumes, if it does not require, a shelf.

Turning to English altars, we must remind the artist that the vast majority of our churches are Gothic buildings (old or new), whose altars must be treated in the English traditional way, which is wide enough to cover much variety. Good instances of such normal treatment are sadly lacking at Burlington House. We do not say that no new style will ever develop or that no experiments ought to be made, but we do say that recent attempts at originality happen to be so unsatisfying that we feel compelled to urge fuller recognition of the old Gothic tradition as a starting-point. And under English Gothic we are almost prepared to include Wren and reject Scott. For the former carried out his restrained Renaissance work in the old spirit, which the latter had lost.

After a somewhat severe criticism of some of the altars at the Arts and Crafts Exhibition, the "Church Times" writer expresses himself as pleased with some of the metal ornaments. Mr. Bainbridge Reynolds's standard candlesticks of gilt wrought-iron are very good, and his painted and gilt lectern is excellent. So is Mr. Spencer's rather larger lectern. Mr. Wilson's paten has rather much decoration for convenience. Mr. Allan Howes's chalice is good. Mr. Stabler's great mace for the Roman Catholic C.B.S. at Westminster is very striking. He feels that, taken as a whole, a great opportunity has been lost in this exhibition of demonstrating the service that good art could render to the Church. Such eccentricity as he finds there is likely to produce a reaction in favour of the merely commonplace, which would be a real blow to the best interests both of art and of artists.

A.A. ACTIVE SERVICE COMMITTEE.

This committee, of which Mrs. Maurice E. Webb is president and (with Mrs. Gervase Bailey) joint hon. secretary, have issued a report, which covers a year's work from October, 1915, to October, 1916, from which we make the following extracts:

A year has passed since the committee issued their first report. The committee's work consists in sending necessities and extra comforts to men connected with the architectural and surveying professions who are serving with the Colours, and in looking after the wives and dependents of the mechanics who have been recruited from the building trades through the A.A. War Service Bureau.

Since October, 1915, this work has been carried on without intermission, and 1,471 parcels of comforts and literature have been despatched to men in France, Flanders, Egypt, Macedonia, India, and Mesopotamia, to men in the Royal Navy and to a naval prisoner at Doberitz. Professional papers which are generously given by the proprietors of the "Architects' and Builders' Journal," and several other publications, are sent weekly to forty men. Many letters have been received saying how much these are appreciated.

A number of men on leave have called at the A.A. to thank the committee personally for the parcels and papers sent to them, and many hundreds of most grateful letters have been received, extracts from which are appended to the report, and new applications are constantly coming in.

Among the gifts sent to the committee during the past year have been 2,000 cigarettes, a weekly supply of 250 cigarettes, and also a consignment of 216 lb. of chocolate from an American well-wisher. A great deal of voluntary work has been done by Belgian refugees, in knitting socks and making ration bags and shirts from material supplied to them.

As the committee have the use of the A.A. premises, the entire funds are devoted to the needs of the men.

Funds have practically come to an end, and unless a prompt and generous response is made to the committee's appeal for subscriptions the work must unfortunately stop. In addition to money, the committee will be grateful for cigarettes, tobacco, shirts, socks, handkerchiefs, pants, vests, scarves, and literature, etc.

All cheques and parcels will be gratefully acknowledged, and should be sent to Mrs. Maurice Webb, 37, Great Smith Street, Westminster, S.W.

According to Government regulation the Active Service Committee is being registered as a War Charity, and the accounts will be submitted to the authorities every three months.

LEGAL.

Architect's Claim. Appeal Court Decision.

Northcote v. Minister and Co., Ltd.

November 6. Court of Appeal. Before Lords Justices Swinfen Eady and Bankes, and Mr. Justice A. T. Lawrence.

This was an appeal of the plaintiff from a judgment of Mr. Justice Rowlatt, sitting in the King's Bench Division. The case in the Court below was fully reported in our issues in March last.

Mr. Holman Gregory, K.C., and Mr. A. Neilson appeared in support of the appeal and Mr. Hollis Walker, K.C., and Mr. Woodgate represented the respondent Nixon.

Mr. Holman Gregory said this was an appeal from the judgment of Mr. Justice Rowlatt in favour of a Mr. Samuel Nixon, an architect and surveyor, and the issue their lordships would have to deal with and decide was whether in respect of the building of certain premises in Polan Street, Regent Street, W., Mr. Nixon was liable to the appellants, who were the building owners, for damages with respect to a question of ancient lights. Mr. Justice Rowlatt had found that the plaintiff, Mr. A. E. Northcote, was liable, but that Mr. Nixon was not so liable. Counsel contended that Minister and Co. had clearly a right of action against Mr. Nixon as well as against Mr. Northcote.

Mr. Hollis Walker, on behalf of Mr. Nixon, contended that in the circumstances there was no evidence of any contract existing between Mr. Nixon and the appellants, which gave the appellants any right of action against him. He (counsel) also denied that Mr. Nixon had been guilty of any negligence.

Without calling upon Mr Holman Gregory to reply,

Lord Justice Swinfen Eady, in delivering judgment, after stating the facts, said that when the true legal position was ascertained, he saw no reason to draw any distinction between Mr. Northcote and Mr. Nixon. He therefore thought the appeal should be allowed, and that judgment upon the counter-claim ought to be against both Mr. Nixon and Mr. Northcote.

Lord Justice Bankes agreed. He said that Mr. Justice Rowlatt had seemed to treat the arrangement between the parties as if Mr. Nixon had given his services voluntarily, with a view to assisting his nephew, and that it did not involve any contractual obligation on his part. He, however, thought there was an independent and separate bargain between Mr. Nixon and the appellants that (Mr. Nixon) would share in the work to be done by the nephew in the proposed new buildings. He thought Mr. Nixon had always recognised that he was responsible and always accepted the responsibility of sharing the work in connection with the design of the building and the preparation of the plans. He was of opinion that the learned judge had taken a wrong view of the contractual obligations between Mr. Nixon and

appellants, and it followed on the facts, as the judge had found them, Mr. Nixon was liable.

Mr. Justice A. T. Lawrence concurred, and the appeal was accordingly allowed. Judgment was therefore entered for Messrs. Minister and Co. on their counterclaim as against Messrs. Northcote and Nixon for £375 6s. 2d., and costs, Mr. Nixon to pay the costs of the appeal.

At the trial expert evidence was given by Mr. Geo. Hubbard, Mr. W. C. Symes, Mr. D. Watney, Mr. Alfred W. S. Cross, Mr. A. W. Rogers, Mr. Frank Elgood, and Mr. Searles Wood.

A Tiling Question.

On November 10, at Chesterfield County Court, before Judge Macpherson, John Standard Wilkinson, builder's contractor, sued Percy B. Stanton, builder and decorator, for £5 15s. 4d., in respect of extras on contract. In August, 1915, plaintiff, at the defendant's request, tendered for the tiling of two villas in Summerfield Road, Chesterfield, for £35 18s. He worked to a building plan submitted by the defendant. This plan did not show the roof, and plaintiff made his own measurements, and stated the quantities of work he was tendering for. When the job was finished it was found there were 242 sq. ft. more than had been tendered for, and the claim was for the difference. Judge Macpherson (to plaintiff): You seem to have supplied more material than you were asked to supply. Plaintiff: It is a custom of the trade, and I could not very well take my men off when I had started the job. His Honour: There are many irregular trade customs, but when you come to establish a question of law you will find you have got your work cut out. You should have made it clear that, owing to the deficiencies of the plan, your figures were approximate. Defendant said that when he paid the contract price he understood the plaintiff to accept it in full settlement. Judgment was given for the defendant.

NEWS ITEMS.

New Method of Dock Construction.

A new method of building dry docks has been adopted at Pearl Harbour in America. Two sections of the dock have been moulded and placed in their positions. The dock is being built in concrete sections, which are moulded and hardened before they are lowered to their place.

Sir Charles Barry's Compasses.

An interesting relic has been added to the Institute collection by the presentation of a pair of compasses used by the architect of the Houses of Parliament, Sir Charles Barry, up to the date of his death in May, 1860. Since that time they had been used by his son, the eminent engineer, Sir John Wolfe-Barry, K.C.B., F.R.S., by whom they were presented to the Institute.

Lieut. Grissell's Bequest to the R.I.B.A.

Intimation has been received from Mr. de la Garde Grissell, sole executor, that the late 2nd-Lieut. Francis Grissell, Associate, has bequeathed to the Institute a sum of £500 free of duty and expressed the wish that it be applied for the benefit of the Library. The late officer, who fell in the fighting on the Somme on September 15, was a pupil of Messrs. Nicholson and Corfe, and was elected an Associate of the Institute in 1913. After his election he accepted an engagement in Hong Kong for a term of three years. Early in 1915 he returned to England and enlisted in the Artists' Rifles, subsequently receiving a commission in the Coldstream Guards.

The Renovation of Selby Abbey.

The renovation work carried out by Mr. T. Strudwick at Selby Abbey has been done at the south-west corner, where new arch stones, shafts, and capitals, and new ashlar stones were fixed. It is a very useful piece of restoration. On the sacristy side new finials and crockets have been erected, and general renovation work is being carried out. The parts of the exterior showing signs of decay have also received attention.

Memorial to the late Canon Rhodes Bristow.

The Bishop of Southwark has dedicated in Southwark Cathedral a memorial of Canon Rhodes Bristow, which takes the form of a font-cover designed by Mr. C. G. Hare. The font-cover is of oak and is adorned with eight figures—St. Stephen, St. Augustine of Canterbury, St. Aidan and St. Athanasius, and four angels. St. Stephen was chosen as the patron saint of the church at Lewisham which Canon Bristow served as Vicar for twenty-nine years, and St. Athanasius in remembrance of the Canon's work for the retention of the present rubric to the Athanasian creed.

New Village for Notts.

At a meeting of the Blyth and Cuckney Rural District Council Mr. F. Hopkinson (Surveyor) reported that he had prepared an estimate of the public work likely to be required in the Council's district at the close of the war. This included a village for the new Farbeck Main Colliery, near Carlton-in-Lindrick, which would probably consist of a church, schools, and about 1,000 houses, and would occupy 500 men for five years. There would also have to be operations reopened at Harworth. There would have to be erected approximately 900 houses. It would, he said, be to the advantage of the Council to see to the provison of sewage schemes for these two developments at once, and also to the provision of roads.

Fifty Years' Municipal Service.

An interesting ceremony took place in the housing department of the Corporation at the Municipal Buildings, Liverpool, when the staff assembled to offer their congratulations to the director of housing (Mr. F. T. Turton) on his having completed fifty years in the service of the municipality. Mr. John Taylor (the manager of the dwellings and Mr. E. Parry (chief clerk) made the presentation, which consisted of a handsome silver breakfast dish. Allusion was made to the pride which the whole staff felt in their chief having achieved such a remarkable record of service, and sincere wishes were expressed for his future welfare. Mr. Turton, in acknowledging the gift, referred to the happy relations which existed between himself and the staff, which he hoped would long continue, and cordially thanked them for their kind gift and expressions of loyalty and goodwill.

A Clock for Glasgow University.

At a meeting of Glasgow University Court it was agreed to accept the offer made some time ago by Major John Garroway to present an electric clock for installation in the tower of the University buildings. The subject was considered in private. After hearing the opinion of Sir John Burnet, architect, and after full discussion, the Court resolved "that the gift be accepted, and that the clock be erected generally on the lines of Sir John Burnet's report." The clock will be put up entirely at Major Garroway's expense as a token of his desire for the prosperity of the University. It will be furnished with a very handsome dial on each of the four sides of the tower. There has been much controversy regarding the erection of the clock, many maintaining that it would mar the architectural beauty of the tower, and a mass meeting of students unanimously decided to recommend the rejection of the gift.

Temporary Government Offices.

A set of offices for War Office and Admiralty work are being erected in the Victoria Embankment Gardens, between Whitehall Place and Horse Guards Avenue, fronting Whitehall Mansions and the National Liberal Club building. An ingenious method of utilising space for temporary offices in St. James's Park, without damaging the permanent beauty of the place, has been found by placing a dyke across the lake and draining off the western section, upon the bed of which the necessary buildings have been erected.

Rebuilding Dublin.

Mr. O'Rooney, representing a deputation of the Stonecutters' Society, came before the City Council and called attention to what he called the great distress which existed amongst members of his union owing to unemployment. He asked that permission should be given to Messrs. Manfield to rebuild on their site in Sackville Street. The Lord Mayor pointed out that all this was premature until the Bill now before Parliament became law. Sir P. Shortall moved a resolution requesting the Government to facilitate as far as possible building in the destroyed area of the city, by removing restrictions on the supply of steel joists and other necessary building materials, so far as this area is concerned. The motion was adopted.

Arbitration Decision.

A difference having arisen between the Loughborough United Trades Committee and General Union of Carpenters and Joiners, and the Loughborough Master Builders' Association, in reference to an application of the carpenters and joiners for an increase of the standard rate of wage per hour, the Board of Trade appointed Alderman T. Smith an arbitrator to determine the matter in dispute. At the arbitration held at the Town Hall, Loughborough, on the 6th inst., the employers' side raised the point that under the existing working rules, signed on behalf of the employers and operatives, any advance of the standard rate of wage per hour (if awarded) could not take effect until May 1, 1917, and by mutual consent the claim of the operatives for an increase of the standard rate of wage was withdrawn, and an application for an increase of the emergency war bonus was a substitute. Having heard the parties in relation to the operatives' amended application for an increase of the war bonus of ½d. per hour, fixed by agreement dated April 23, 1915, and having carefully considered the whole of the evidence, Alderman Smith has given his award that the present rate of war bonus shall be increased from ½d. to 1d. per hour, and that the increased rate of war bonus shall be paid on the hours worked in the week ending November 18, 1916, and continue in operation during the present war.

SIR WILLIAM LEVER'S HOUSING PROBLEM PROPOSALS.

Commenting on Sir William Lever's proposals for the solution of the housing problem (see an editorial note in this issue), a correspondent of the "Liverpool Dail Courier" makes the following observations:

Your readers are greatly indebted to Sir William Lever for his admirable proposals for meeting the present dearth of houses for the working classes. The need is unquestionably pressing, and must be met in some way, and that promptly. Matters have been allowed to drift until State interference in some form or other seems to present the only remedy.

Sir William's proposals, however, refer to the future rather than to the present condition of affairs, to a new district where land for building purposes can generally be acquired at moderate prices, and not to congested districts in our large towns and cities where the population has entirely outgrown its boundaries and where land for extension or reconstruction is relatively high in price. The result is that we have overcrowding intensified with all the horrors of slum life in its worst forms. The problem is one that must be faced, on the ground of social, sanitary, and moral conditions.

Not much will be gained by blaming this or that form of local or Imperial government, which will only lead to interminable discussion without arriving at any practical result. My own opinion is the crude, undigested legislation of which "Form Four" was the climax is largely responsible for the present crisis, and until that has been removed from the Statute Book I can see no immediate prospect of a permanent settlement. It has been publicly stated over and over again that for every pound that passes to the National Exchequer from that source, seven or eight pounds have been spent in its collection.

One wonders how long this absolute waste is going to continue—keeping up an army of valuers, clerks, and highly paid officials who are quite satisfied to go on for ever, while the unfortunate taxpayer has to foot the bill.

Get rid of this incubus and free the land from the interference of the erratic valuations, and your individual builder will soon find a way out of the difficulty, possibly with the intelligent help of municipalities or even Government itself, but upon known and understood terms which shall be final.

Two things would naturally follow—first, the stoppage of this terrible waste of money, and second the setting free of large numbers of young fellows who ought to be fighting in defence of our nation instead of wasting its resources.

Mr. E. Russell-Taylor, J.P., F.A.I., president of the Liverpool Property Owners' Association and vice-president of the National Federation of Property Owners' Associations, analyses Sir William's scheme and proposes an alternative.

"Free land for houses." It is (Mr. Russell-Taylor writes in the "Liverpool Daily Courier") an attractive idea which must appeal to the imagination of a surveyor like myself with thirty years' practical experience. I confess I should be glad to obtain free land for my builders. But that is not the standpoint from which the proposal must be viewed. Sir William has submitted a proposition with the object of solving a problem in the public interest, and it is in that light solely that it must be considered. As a champion of private enterprise Sir William declares that the building by the Government of the additional cottages the nation needs is not a practical proposition, and points out that there are pitfalls which the Government would encounter if they did embark on a housing scheme for the country because there is no Government department adapted to deal with such a situation as has been created by the national house shortage. Finally, he shows how inevitable would be the unhappy fate of the local builder, whom the country must recognise as indispensable: "Certainly the local builder would, if he built in competition with the Government scheme, lose money. He would have to make good in his taxes and rates for the mistakes and ignorance of the Government, and if he made money his profits would, in the form of income-tax on a rapidly increasing scale, be taken from him to pay for the mistakes of the Government."

This is a lucid and sound judgment with which every practical man will agree. A Government scheme would be costly, it would prove inefficient, and it would do irreparable damage to an important national industry. Realising this, Sir William searches for a method by which such a combination of disasters would be averted. He proposes free land for houses, the municipality to purchase the land (out of the ratepayers' money), and the services of the local builders thus to be retained, and he contends that this proposal is neither revolutionary nor unjust.

Let us consider the proposal from the point of view of the ratepayer. Sir William contends that it would be a profitable investment for municipalities to acquire land and make the roads and sewers contingent thereto prior to building operations, and to present the land free to the builders. This cannot be but unfair to the direct ratepayer. I do not know of a progressive city in the land where the rates have been reduced as a consequence of the building of cottages. My experience is that rates in all progressive cities and towns have increased during the past few years.

But we will, for the sake of carrying the argument to a point of finality, put the proposal of Sir William into a concrete form. If a municipality purchases land at £200 per acre, and erects twelve houses upon the acre, the land money would amount to £17 per house. To this must be added the cost of constructing the roads and sewers, which I estimate would be about £30, which means that £47 (say £50) is presented to the builder in connection with each house. Assume for a moment that the houses erected are of a rental to warrant them being assessed at £13, they would come under the "composition" rate. In Liverpool the total rates derivable from such a house would be £3 18s. per annum, excluding the property tax. Assume also that the municipality borrowed the money for the land purchased and the cost of road-making and sewering, upon which they would pay 7 per cent. for interest and sinking fund. That would amount on £50 to £3 10s., leaving only 8s. to meet the proportion of the expenses of all other municipal undertakings and upkeep, which being insufficient would thereby entail an additional burden on the direct ratepayer. I would interpolate at this point this general statement, that the rates contributions received from compounded houses to-day are insufficient to meet the local charges. Therefore it will be seen from a financial point of view it would be impossible for any municipality to acquire land, make roads and sewers, and present it to the builder, and for such an undertaking to turn out a financial success.

The proposal of Sir William Lever may have much to commend it, but I doubt whether in practice it could be a successful expedient. Personally, I believe the solution of the housing question must lie with private enterprise. In the past private enterprise, which is responsible for 97 per cent. of the cottage houses in this country, has performed its task and provided housing accommodation for the people, and it is ready and willing to do so in the future. But to-day it finds the door "locked, barred and bolted" against its efforts by legislation which has brought building to a standstill. Let the legislative enactments which are of a detrimental character to building progress be removed from the statute book. Then there will be no necessity for any such proposal as the granting of free land for builders at the expense of the ratepayers. And if also after the war builders are granted privileges for acquiring the necessary materials for the construction of houses the position will be considerably improved.

Instead of asking the Government to provide millions of money—always excepting the demolition of insanitary properties in our cities—so that municipalities can build, I would strongly recommend another method. Organise private enterprise. Divide the country into areas for this purpose, over which men of practical experience will preside, and you will find that private enterprise would meet not only the present shortage, but would keep pace with the ever-growing demand of the increasing population. All this can be accomplished if the Government will grant the facilities at a cost which would be infinitesimal as compared with the amount of money recently asked for from the President of the Local Government Board. Private enterprise alone can on economic lines provide the remedy for the house shortage.

LECTURES ON OLD LONDON.

An interesting effort is being made by the London Society to arrange a series of lectures on "Old London," dealing with the past history of districts which are renowned by association with famous people or by their possession of some historic building or institution. The first of these was delivered last week in the hall of the Royal Society of Arts, Adelphi, by Mr. Edwin T. Hall, F.R.I.B.A., who took as his topic "Dulwich History and Romance." Major-General Lord Cheylesmore, chairman of the Dulwich College Governors, presided over a large attendance, and Mr. Hall, with the assistance of lantern slides, gave an interesting account of Dulwich as it was when the River Effra flowed overland to the Thames, and when King George III., Pepys's wife, and Lord Byron visited Gipsy Hill in order to have their fortunes told by the nomads who frequented the place.

This year is the tercentenary of the dedication of the chapel of the "College of God's Gift," and the commencement of the building of the college. Alleyn, said the lecturer, made one great mistake in that he did not employ an architect, which was somewhat strange, because he was a friend of Inigo Jones. The consequences of having no architect were disastrous, because in less than a century from the commencement of the buildings important portions of the structure had tumbled to the ground

NFLUENCE OF THE WAR ON ARCHITECTURE.

Captain R. Burns Dick, R.G.A., ccupied the chair, as president at the nnual meeting of the Northern Architecural Association, at Higham Place, Newcastle, and in his address spoke of he influence of present events on the itizens' attitude towards the "City Beautiful."

Though the war had produced the lisastrous effects for the profession to be xpected from the curtailment and uncerainty imposed on all peaceful industry, t had, unfortunately, been found necesary to put a stop to much of the work hat was left to them in order that the utput of munitions might not be interered with.

The President alluded to the death of Ir. J. W. Taylor and to the death of Mr. . W. Dyson, and expressed sympathy with hose who had been bereaved through the ar. Terrible as seemed the price we ere paying, he had a full belief that osterity would not consider it too great or the results achieved. He believed hat the changes which would be wrought y this conflict in every domain of our ational life would be vaster and more ar-reaching than any had any conception f.

Foresight Committees.

In my last address (the President ontinued) I advocated the establishment f what I called "Foresight Committees," nd I still think much might be accomlished in the meantime, by each of us o constituting himself, if only as a hobby n his spare time. I must also reiterate ne views I expressed as to the tremendous ffect that the new methods of warfare ill undoubtedly have upon the actual orm and construction of buildings and ne laying out of residential and industrial reas. I am convinced, though none of s is likely to see the particular "set" it ill assume, that this is the dawn of as istinctive an era in architecture and the rts as any of the well-defined periods in istory.

But whilst I am emphasising the part nat the developing science of warfare will lay in this dawning new era, I do not ish to suggest that that is the only factor n the change that is coming, though I elieve this war to be directly responsible or launching the new order of things, for believe it will materially change the itizen's outlook in a way nothing else ould have done. One of the things to hich the sordidness of the surroundings nd atmosphere of industrial life may be rgely attributed is the inability of the eople themselves to see that there is a olid and substantial return to be obtained om expenditure on spacious, healthy, nd beautiful surroundings in the centres here they work and live. Its practical nd remunerative value, to put it on no gher basis, has been clearly demonrated by such far-seeing men as the ounder of Port Sunlight.

Newcastle as an Example.

I have only to take our own city as an xample. We have more than once heard city father with pardonable pride refer this as no mean city. A no mean city, deed! Whilst that remark points to the any-sidedness of the city's life, its disnguished citizens, its position as a centre culture and learning, and its great dustrial position, it also visualises the nposing thoroughfares and buildings of nich the city may justly boast. Now, take away the work of that far-seeing citizen, Grainger—work that owes its nobility of form to Dobson, his equally great architect—and what remains of our boasted city? How much is there left of which one would boast? Yet, eighty years have elapsed since Grainger's fine work came into being.

Since then city improvements—some on a large scale—have had to be undertaken to meet the growing traffic and business demands; great opportunities have offered themselves to continue the work of Grainger; and a people prosperous enough to bear the burden has not been wanting. With what results? With all our boasting of our fine streets, there has not been, since Grainger's time, one single instance of the many thoroughfare improvements and extensions undertaken having in any way approached in spaciousness and dignity those constructed three-quarters of a century ago, when failure to foresee the enormous growth and nature of the traffic that would crowd our streets might have been considered excusable.

It is the people themselves (the President went on to say) who are responsible, and it is our business and the business of those who are devoting time to the study of better housing and town-planning, to foster and encourage an appreciation of the moral and material benefit that will accrue from an improvement in those vital matters of civic life. Nothing but a cataclysm would have the desired effect, and that cataclysm is here, and is in process of working that change in the perception and outlook of the people themselves, from which great things can confidently be looked for.

ST. GEORGE'S HOSPITAL IMPROVEMENT SCHEME.

Plans for a radical reconstruction of the out-patient and other departments of St. George's Hospital, London, have been approved by the house committee and have been submitted for the final approval of the Court of Governors. There is, we ("The Hospital") gather, no present intention to take active steps to carry out this scheme until after the war: but it has been thought advisable to use the opportunity for carefully maturing the plans and getting all necessary approvals. The buildings have, admittedly, been for years inadequate for the work that is carried on in them. The committee mention especially the cramped out-patient and casualty departments, which have been condemned by representatives of King Edward's Fund. Great inconvenience in administration is also caused by the housing of the nurses at a distance from the hospital. The various proposals of the last ten or twelve years for removing the hospital to another site have naturally deterred the committee from advocating heavy expenditure to bring these departments up to date; but now that it is finally recognised that removal is out of the question avoidable delay can no longer be brooked, and hence the formulation of the present scheme.

In the new plans the objects are to facilitate and centralise administrative control; to place the out-patient department (which is certainly the most out-of-date and imperfect part of the existing buildings) on a satisfactory footing; and to improve very greatly the accommodation for the resident medical officers, as well as to provide for the housing of the nursing staff on the premises instead of at a distance of a mile. All this is to be accomplished by the erection of a new building on the site of the four houses in Knightsbridge between the "Cottage" and the Tube station. This building is to be so arranged that it may form part of any new hospital to be built on the present site. It will consist of basement, ground floor, and six floors above, and will extend from the west end of the present Wellington Ward to the Tube station, with a wing at right angles extending to the medical school. By a rearrangement of the rooms on the ground floor and basement of the present buildings, rendered possible by the proposed extension, it will be possible to provide a midwifery ward of twenty-two beds. All the resident officers will be housed on the first and second floors of the new buildings; and the top four floors will be allotted to the nurses, who will have a separate entrance in Knightsbridge and will be provided with a lift. The electrical department will be moved from its present quarters to the basement; and the rooms now occupied by it will, with the present secretarial offices, be made into a ward to replace Wellington Ward, which will form part of the new casualty department. The administrative offices will be along the back of the ground floor of the hospital, on each side of the board-room, where the casualty receiving rooms are at present.

NEW PUBLIC WASHHOUSE IN EDINBURGH.

At the formal opening of the new public washhouse which has been erected by the Edinburgh Corporation at M'Leod Street, Edinburgh, it was stated that this is the sixth public washhouse provided by the Corporation, and the new building is an attractive-looking and compact structure, carried out on simple but effective architectural lines. It has a frontage of 160 feet to M'Leod Street, and the washing hall is 80 feet long by 35 feet wide. The number of stalls provided for meantime is 40, with room for extension to 60. At the entrance is a large waiting hall for the women, with a space for perambulators, etc. The upper part of the administrative section is provided with a crèche, etc., where young children will be taken care of while the mothers are engaged in the washing hall. Each washing stall unit consists of steam boiling trough, washing and rinsing tubs, and drip table, and each group of stalls will be provided with steam-driven hydro-extractors. The new building, which is estimated to cost about £6,500, has been erected from plans and under the supervision of the city architect, Mr. James A. Williamson, A.R.I.B.A. Lord Provost Sir Robert K. Inches, who presided at the opening ceremony, said he hoped that the new washhouses would be a boon to the people of the district. Councillor Stewart, convener of the Plans and Works Committee of the Town Council, formally declared the new building open. With the exception of the housing problem, he remarked, the provision of washhouse accommodation was the most important thing that the Corporation could take up for the comfort of the citizens living in small houses. The war had hampered the progress of the construction of the building, which, he thought, was practically the last word in washhouse construction. Councillor Stevenson, on behalf of the Plans and Works Committee, presented a memento of the occasion to Mrs. Stewart, wife of the convenor of the Committee, and Bailie Archbold expressed the thanks of the residents in the district for the washhouse.

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THE
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ENTRANCE HALL, ROYAL SOCIETY OF MEDICINE, HENRIETTA STREET, LONDON, W.

BELCHER AND JOASS, ARCHITECTS.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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EDITORIAL.

TO a powerful letter from Mr. Herbert Baker, dealing with the Charing Cross Bridge question and cognate matters "The Times" drew special attention in a leader strongly supporting his views, which, it need scarcely be said, favour re-planning on some such lines as those suggested in the scheme put forward by Mr. John Burns, Sir Aston Webb, and Mr. Reginald Blomfield. The letter and the leader are reproduced on p. 252. In the ensuing discussion, two of the most interesting letters were contributed by Sir J. D. Rees, M.P., and Sir R. W. Essex, M.P. Writing from the Travellers' Club, the former urges "the danger threatening the travelling public by the refusal of the House of Commons to accept the Bill promoted by the railway company concerned for strengthening and making safe the existing, no doubt unpleasing, but useful structure." He holds that, by its rejection of the Bill, the House of Commons is responsible for the risks run. This, it appears, is a very adaptable sort of argument: it can be used with equal force by the supporters and the opponents of the Bill. By the former it is said that if the bridge breaks down, Parliament will be morally responsible; by the latter, that, having rejected the Bill, Parliament has morally committed itself to the re-planning scheme. This is amusing rather than convincing. In neither direction is Parliament responsible. When Sir J. D. Rees asks, "Will the weak spots obligingly wait till the end of the war?" he touches a weak spot in the arguments put forward by the railway company, who supported their case by the statement that the work would not be undertaken during the war. If there is so little urgency, the fears expressed by Sir J. D. Rees are groundless; or, if they are not, there is something the matter with the company's statement.

* * * *

Again, it is not altogether a question of "weak spots." Surely it is not necessary to go to Parliament every time the bridge wants a new rivet or a fresh coat of paint. Neither Parliament nor publicist has the slightest objection to the company's keeping the bridge in proper repair, and all this talk about making the objectors morally responsible for the consequences of neglect is merely rhetorical, and has no other effect on the main issue, which is whether or not, by spending a large sum on the enlargement of the bridge (and incidentally on necessary repairs) the company are to establish a further excuse for perpetuating the Behemoth, and thus to prejudice very seriously the case for town-planning the area. Alternatively, no one wants to see the company throwing away £170,000 on temporary patchwork. Let the bridge be made safe, Sir J. D. Rees says in effect (and so far there can be no dissentient voice): "afterwards, funds permitting, by all means let us have the most beautiful bridge built since Nitocris spanned the Euphrates [illegible] Babylon." But how long afterwards depends a good deal on the fate of the proposal to give the Behemoth a new lease of life.

* * * *

Sir R. W. Essex, whose letter appeared simultaneously with that of Sir J. D. Rees, makes some good points. "It seems puzzling," he writes, "to those who do not know the facts, that it is not the duty of some one high authority guarding our civic amenities to deal outright with the whole matter." As the case stands, it is almost an occasion for gratitude that the "one high authority" is not a railway company! For the only power which had the legal right to enter an opposition to the recent Bill in the Parliamentary Committee rooms was the Port of London Authority, which was naturally more concerned with the fairway for barges than with any question of sightliness. It was only as an act of grace (for which we have to thank the Earl of Plymouth) that other interests were represented. While no one desires to deal unjustly or harshly with the South-Eastern and Chatham Railway Company, it is nevertheless necessary to insist that there is no part of a great city where its attractiveness and dignity can be so easily made or marred as upon its central river. "At the point in dispute," Sir R. W. Essex contends, in a gallant departure from the "tidiness" or "good-business" compromise "we have a fine curve which, if rightly dealt with might give us one of the noblest stretches of river view in Europe, and surely so enormously important a consideration must be worth more than a small discussion between two even such excellent parties" as the railway company and the Port of London Authority. It is fortunate that the matter has been taken up with so much vigour in the Press.

* * * *

It is satisfactory to note that the tribunals are showing an increasing recognition of the real significance of man-power, and are more freely granting exemptions to men who are obviously of more value as craftsmen than they would be as soldiers. It was a coroner who first emphasised the folly of sending from the army men who are more useful out of it; the instance being a builder who dropped dead during a march-out. According to the medical evidence, the man, who was suffering from heart-disease, might have gone on working for years at his own trade, but the unwonted fatigue and excitement of soldiering killed him, and it appeared that, as the coroner observed, there was no national economy in destroying a good workman to make a bad soldier. This was no doubt accidental and exceptional; but it is to be feared that there are many instances to which the coroner's [illegible] epigram applies in its broad principle. For exam

it a sitting of the Northumberland Appeals Tribunal ast week, the military representative appealed against he exemption of a plumber and sanitary engineer. Apparently all that the military representative cared o see was that the man was fit, single, and only thirty-hree years old. But the view that prevailed was that ie attended to the work of two large collieries and ther important works, as well as to all the houses belonging to such works, and was the only competent plumber available. The Tribunal considered that, in iew of the shortage of plumbers in the country, it was mportant that the services of this man should be etained. Certainly, military emergencies must be met t all costs; but the crippling of a colliery, or an out-break of disease in the colliers' homes, would be a national calamity for which the netting of a single oldier (and him untrained) would be a ludicrously nadequate compensation. It would be a sorry xample of national economy.

* * * *

That depletion of the ranks of labour should not be ndiscriminate is a counsel of common sense, but it as not been invariably observed. It is notorious that ome of the tribunals are sadly lacking in the cool-eadedness of these Northumbrians. It needs all the ourage of conviction to exempt from military service n unmarried man of thirty-three on any pretext what-ver save that of physical unfitness; but the case was o doubt exceptional, and there can be not the lightest doubt that the man can do his country incal-ulably better service in the collieries than he could in he trenches. At any rate, it is very certain that abour of all kinds, skilled and unskilled, is for the oment very difficult to obtain. Hence the demand nat has arisen—at all events, as a sensational line in ie cheap Press—for the importation of Chinese olies and black men. For this France is setting a recedent, and in our contemporary "Le Batiment" I. Louis Jardin, "architecte-expert," is writing a eries of articles in which the importation of Chinese abour is discussed in considerable detail. "The war," I. Jardin writes, "while increasing considerably the umber of our workshops, has at the same time greatly epleted the workers, and we shall need two million siatics if we are to win the economic war for which reparations are now being made." It will be neces-ary, he points out, to form Chinese isolation camps, nd to keep the men under strict surveillance. They re to be paid two francs and a half a day—which, he ys, means wealth to them—and the Frenchmen orking with them are to be placated by distributing nong them half the difference between that figure nd the standard wage. It is a desperate remedy.

* * * *

A sufficient interval for reflection having elapsed, it worth while to recall a rather neat little parable hich Captain R. Burns Dick, of the Royal Garrison rtillery, fired off, so to speak, in seconding the vote of anks to the president of the R.I.B.A., for his address. Recently," said the captain, "during gun practice, I bserved the effects of the blast from a gun on a small ructure near by, whose door and windows had been curely closed. By the shock of concussion the door as torn from its fastenings, split in two, and cast into e interior; windows were broken, and the structure riously shaken. Now, if door and windows had been t open, little injury would have resulted. There, it emed to me, was an excellent illustration of what ould happen to universities, institutes, and every ntre of social, educational, and industrial activity at closed their doors to the effects of the thunder of esent events. Either let the hurricane blast sweep rough, carrying with it the dust and decay of the past d clearing the way for the new activity, or be content see the fabric itself swept out of existence."

Parables should never be closely pressed; and therefore we must firmly rule out any questions as to what doors and windows are for, whether the "ever-open door" does not, by its ever-openness, forfeit its chief function, and as to whether there is any real parallelism between shutting the stable door after the steed has been stolen and closing it after the gun-blast has got in its deadly work. It is enough that we catch the captain's drift, which we take to be that when the hurricane-thunder is heard rumbling up in the distance we should throw open our doors and windows to let in the new year, or the new era, or some sort of an invigorating atmosphere. If the metaphor is a little mixed, we must plead force of example. But, to be perfectly serious, we are sure that the profession is greatly indebted to Captain Burns Dick for the eloquence with which, upon more than one occasion, he has warned it to be in readiness for the inrush of new ideas and of unprecedented conditions which is bound to follow hard upon the great upheaval. True, the character of these vague and vast changes is not yet discernible; but the point is that we must preserve an alert and expectant attitude—throw open the doors and windows of the mind, lest these be shattered and the fabric wrecked.

* * * *

Certain rather antiquated institutions are obnoxious to the charge that they need the ventilation and the vacuum cleaning process which the fates are preparing for them. Our older universities must make haste to forget their ancient habit of "sporting the oak" against innovation. No university should be without its chairs and its degrees in architecture and in civic design; and there should be a short, cheap, and direct route from the judiciously opened doors of the architectural school to the unbarricaded portals of the university; always supposing that, unlike Liverpool and London, the university does not conduct a school of its own. We are, of course, aware that Cambridge is coquetting with the subject, and that "The Story of Architecture in Oxford Stone" is a favourable portent; but we should like to see all the universities and all the schools linked up in a great co-ordinative and co-operative replanning scheme, with the architectural organisations duly represented on the central board.

* * * *

Professor Adshead's lectures at University College, London, on "Town-Planning of Greater London After the War" are opportune not only as to time, but as to character. So far as they have gone, they are marked by the strong common sense and sturdy practical wisdom that one had been led to expect from this quarter. Ideals we must have, but unless they are kept under rather severe restraint, they are apt to lose weight and substance ,and to evaporate in the mere expression. Professor Adshead's ideals are all rationalised, and are so demonstrably practicable that one gets from his lectures the net impression that to neglect his well-considered advice would be foolish. Dealing, in his first lecture, with the topical subject of transit—"the diurnal journey between suburb and town"—he mentioned a point that has not been brought into sufficient prominence in the Charing Cross Bridge controversy. He foresees the ultimate electrification of all the railways that run through towns; and we believe we are right in assuming that he could have supported a case for immediate electrification by pointing to foreign example. Unless we are mistaken, there are certain cities in the United States which refuse to tolerate the smoke and dirt and noise of steam traction, and any really effective scheme for the "tidying" of London must involve the same prohibition. At any rate, Professor Adshead's outlook on the whole question of town-planning is eminently sane and convincing.

HERE AND THERE.

TIME and again, in that first of architectural magazines into which I have been dipping, the question of competitions crops up. Even in this present year of grace we hear complaints about the manner of conducting such affairs, as witness the competition for Australia's new Parliament House, but the evils which we know are nothing in comparison with what prevailed in the early part of the nineteenth century. Here, for example, is what "Hostis" says in "The Architectural Magazine" for January, 1835: "The undue means which are sometimes resorted to by competitors, to forward their own cause, are disgraceful in the extreme; some have been known openly to carry about their designs for the purpose of procuring votes before the general exhibition; some unfairly attach their names to their plans (instead of using a private mark, as they ought to do); and some have even been known, surreptitiously, to withdraw their designs from the exhibition in order to add improvements which have been suggested by the designs of another; nay, such is the total want of principle, and disregard of justice to the competitors, shown in some cases, that an instance could be brought forward where one of the competitors was appointed the judge! He, most naturally, gave his decision in favour of his own design; and the unsuccessful competitors were dismissed with the most cogent and satisfactory argument that 'the judge was a man of such respectability that he would not have chosen his own design unless he had considered it the best!'" How truly Gilbertian! Yet we are assured that this was the way in which nine out of ten competitions were then conducted.

* * * *

One competition in particular is the cause of innumerable comments in "The Architectural Magazine"—the competition for the new Houses of Parliament. In the issue for December, 1834, a couple of months after the fire that destroyed both Houses, we get a first murmur of the ructions that followed, for the hope is expressed that "before anything is done, either in the way of rebuilding on the ancient site, or on a new one, the whole architectural talent of the country will be invited to send in designs and suggestions; and that these will be impartially examined by a competent commission. We constantly hear of cases in which plans have been advertised for in competition, while the architect who is to be employed was appointed beforehand, and the only use of advertising for the plans was to admit of his gaining hints from them." Into the maze of discussion that centred around the Houses of Parliament competition I cannot attempt to enter. Pamphlets were flying around the heads of everyone concerned, and, so many were the ramifications, it is extremely difficult to trace the course of the competition. The main facts, however, are clear. There were ninety-seven competitors, and they sent in fourteen hundred drawings, which were adjudicated by the Commissioners. It was those Commissioners who caused the trouble. They placed Barry's design first, and most people—certainly the competitors themselves—seem to have been thoroughly in agreement with this selection, but the general conduct of the competition, and, especially, the allotting of the second, third, and fourth premiums, gave rise to endless dissatisfaction. The competitors even met together on June 7, 1836, at the Thatched House Tavern in St. James's Street, with Cockerell in the chair, and passed resolutions on the "incompetency" of the Commissioners, who were described as "amateur gentlemen unassisted by scientific knowledge or professional advice," and demanded that the Government should appoint a wholly new set of Commissioners, so that the designs might be properly assessed. The Government, I believe, did nothing of the kind, and the competition hubbub ran itself out, Barry receiving the first premium of £1,500 and being eventually entrusted with the erection of his building (for which we must be profoundly thankful, for his Classic design in a Gothic dress is the most delightful modern building in London), whilst Robert Hamilton, J. C. Buckler, and W. Railton (he who later designed the Nelson Column) were placed second, third, and fourth, each receiving £500. It was an instruction to the Commissioners that they should select not fewer than three and not more than five designs. They selected only four, not considering that there was a fifth worth £500. And it was that particularly which seems to have raised the ire of the competitors at their meeting at the Thatched House Tavern (which, we may note in passing, was the Institute's first home).

* * * *

Even in those days they did things better in France as may be judged from a report of the meeting of the Institute on February 15, 1836, when a letter was read from a distinguished Frenchman giving the following account of how the competition for a public monument to General Foy, in the Cemetery of Père Lachaise, was conducted. "The drawings and models were first publicly exhibited for a week, and criticisms were eagerly sought from the public journals; the names of the candidates, meanwhile, being sedulously concealed. A commission was then appointed, consisting of architects, painters, etc., members of the Academy afterwards, a second, of artists, not members of the Academy; and, ultimately, a selection was made from military men high in esteem. These last, however, honourably declining to vote upon a subject they had not studied, the choice was left to the first two bodies, who, having the public opinion to assist their judgment, speedily came to a decision, with which nearly everybody appears satisfied." To which Loudon, as editor of "The Architectural Magazine" adds a comment, pointing out that "one advantage of this plan is to neutralise the effect of competing architects showing their designs, before sending them in, to numerous friends, which, though all perfectly fair, yet as these friends may sometimes be among the judges themselves, or have friends among the judges, enable the judges to recognise the plans of individuals, and of course, to incur the hazard of being more or less prejudiced. In short, all competitions whatever ought to be made in public . . . and the present seem to be a very suitable time for architects to make an impression on the public in this matter, and to destroy for ever that system of privacy and favouritism which has hitherto prevailed in this country." The architect presumably took up the suggestion, and after protesting, in season and out, for years, ultimately brought about a better state of affairs, though even to-day the Competitions Committee has occasion to argue with promoters, and even to put them on the black list.

* * * *

In these early 'thirties the Institute, then not Royal, was just beginning its career, and its conditions of membership seem to have given rise to much resentment in certain quarters. In 1835 I find someone complaining of the exclusion of surveyors, builders, and others, and he gets this answer from "Alpha": "I conceive the admission into an organised Society of Architects of the trades connected with that profession to be fraught with the most pernicious consequences. Permit me only to ask you, Sir, what would be the probable result if men were allowed to practise as surgeons without having passed their examination at the College? Why, simply this: that the profession would be overrun by hundreds of the mere dabblers in drugs, from the pill-making quack to the chemist





MODERN AMERICAN ARCHITECTURE (SERIES II.). XX.—DESHONG MEMORIAL GALLERY, CHESTER, PA.

CLARENCE W. BRAZER AND E. DONALD ROBB, ARCHITECTS.

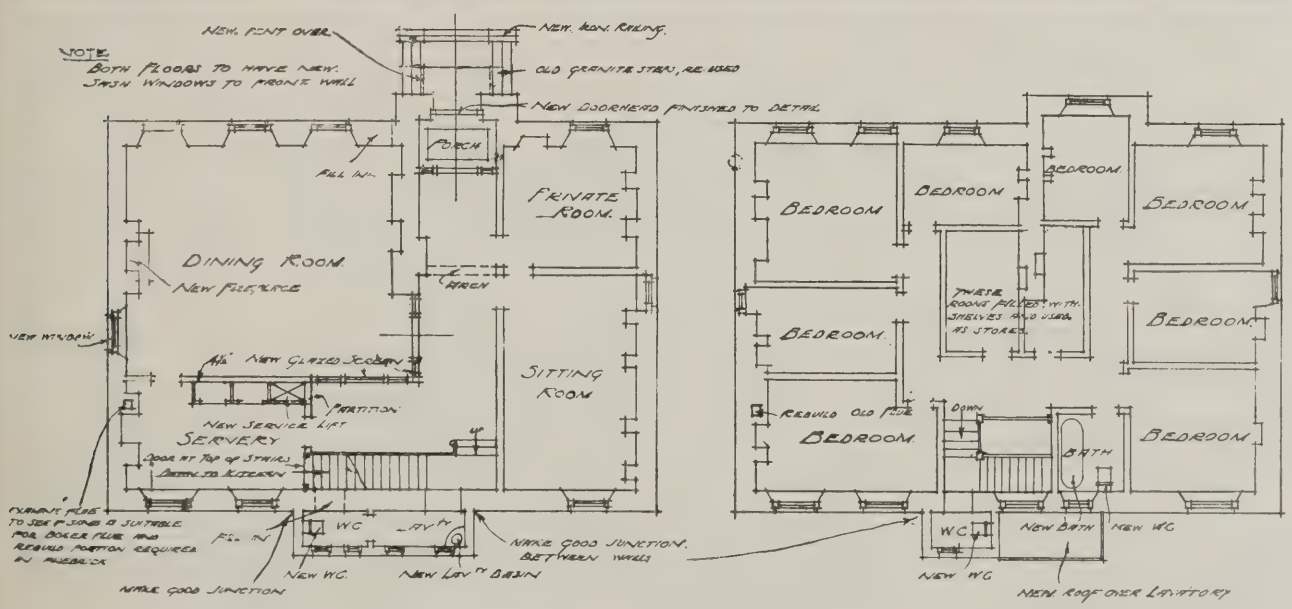


DOORS AND DOORWAYS. XII.—DOORWAY TO MAIN GALLERY, DESHONG MEMORIAL GALLERY CHESTER, PA.

CLARENCE W. BRAZER AND E. DONALD ROBB, ARCHITECTS.

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CURRENT ARCHITECTURE (SERIES IV.). IX.—IMPERIAL HOTEL, PRINCETOWN, DEVON.

RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS FOR ALTERATIONS.

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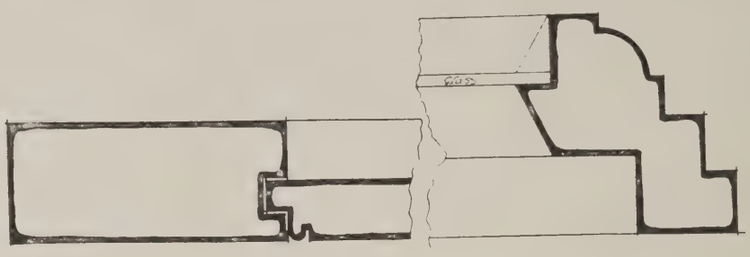




SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.). XL.—TWO HOUSES AT BLACKHEATH, LONDON, S.E.

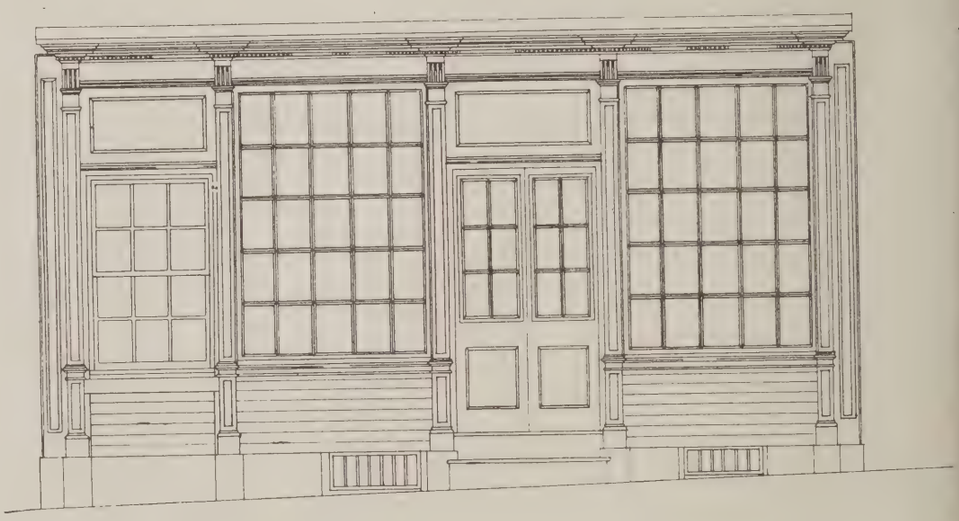
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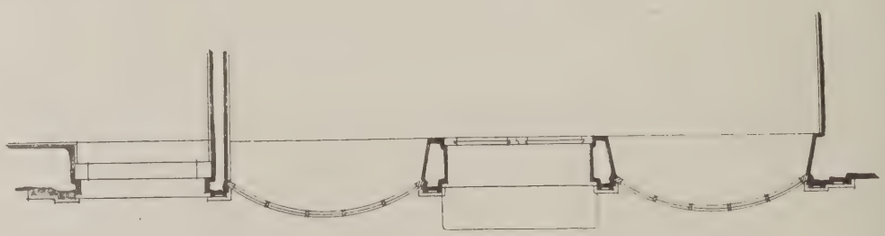


Doors

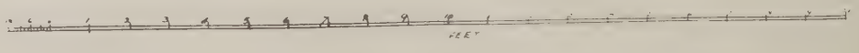
N°19, FRANKWELL SHREWSBURY

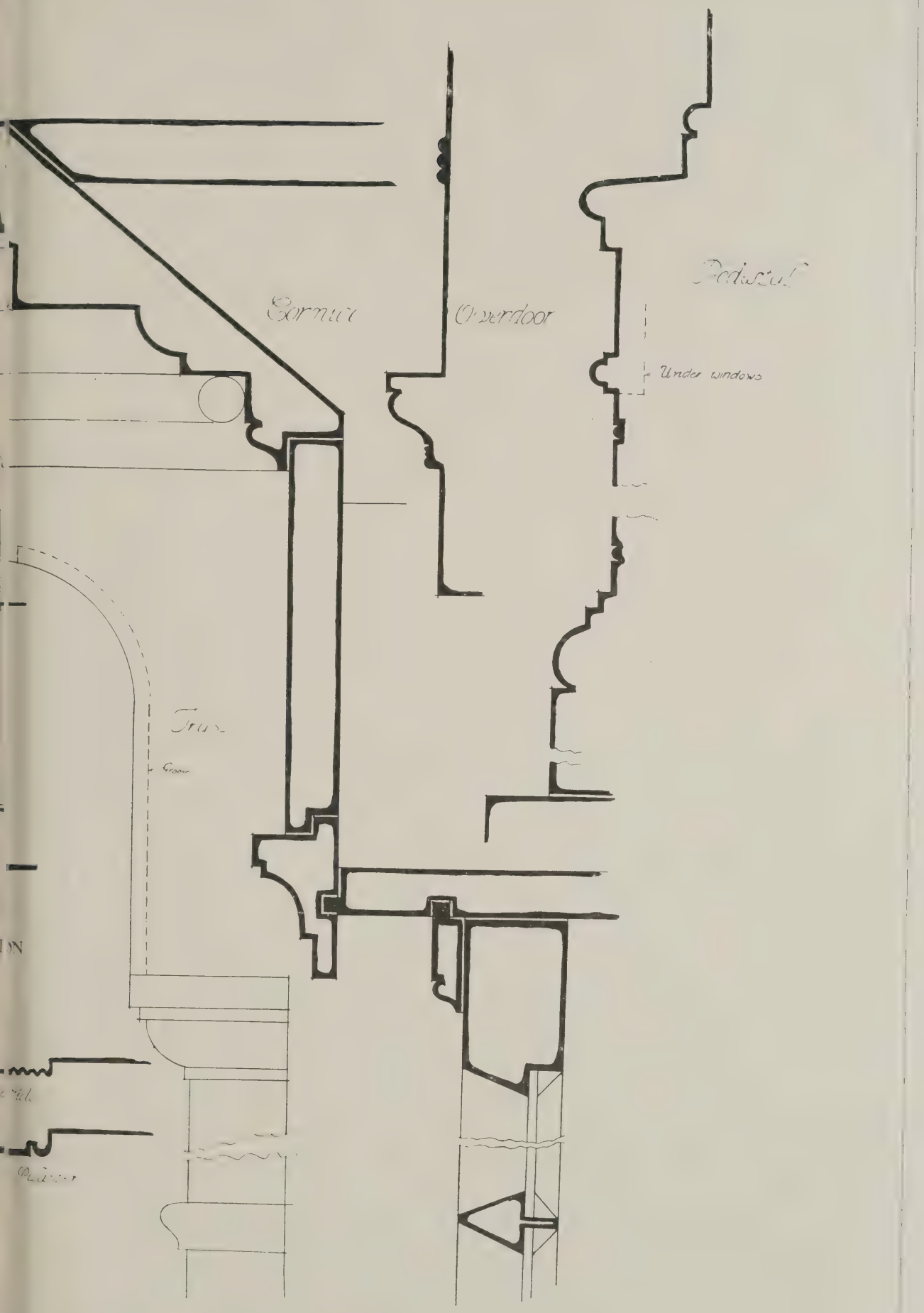


ELEVATION



PLAN





DRAWN BY FRANK H. SHAYLER, F.R.I.B.A., AND EDWARD R. BILL, M.S.A.

shopman. . . . I recall to my mind, at this moment, one case, of many, that will fairly answer this question. A gentleman, some months since, wished to build himself a Gothic villa; but, his mind being disturbed with the charges and commissions of architects, he was unwilling to employ one. In this dilemma a house-painter, who was at work for him, generously offered to make a design; he did so, and undertook the building, too; and what was the result? The Gothic villa cost nearly double what was intended; and there it now stands, a model of unstudied elegance, looking like an overgrown specimen of a Tunbridge Wells work-box." Yet we still have people, distinguished Fellows of the Institute among them, who tell us that there is no hope for English architecture unless we go back to bricky.

UBIQUE.

THE PLATES.

Deshong Memorial Gallery.

THIS delightful little building, in which Classic and Italian Renaissance motifs are skilfully mingled, has been erected to house the late Mr. Alfred O. Deshong's collection of modern paintings and Chinese bronzes and ivories. Upon his death in 1913 Mr. Deshong bequeathed his estate, with its mansion and art collection, to the city of Chester, on condition that a suitable building should be erected for housing his works of art. The building illustrated is the result of two competitions, in both of which the successful architects were Mr. Brazer and Mr. Robb (associated). It is constructed of marble, and into the carving have been introduced many forms of the ivories and fine bronzes to be found within the galleries. The bronze doors and window grilles have been treated with a patina to match the antique Oriental dogs and lanterns placed about the exterior of the building. Fire-resisting construction is used throughout. The main gallery floor is directly upon ground, but cemented pipe-trenches encircle this room under the surrounding galleries, which have floors of reinforced concrete construction covered with cork tile. Each gallery is cut off from the adjoining galleries by automatic sliding copper-covered fire-doors.

Imperial Hotel, Princetown.

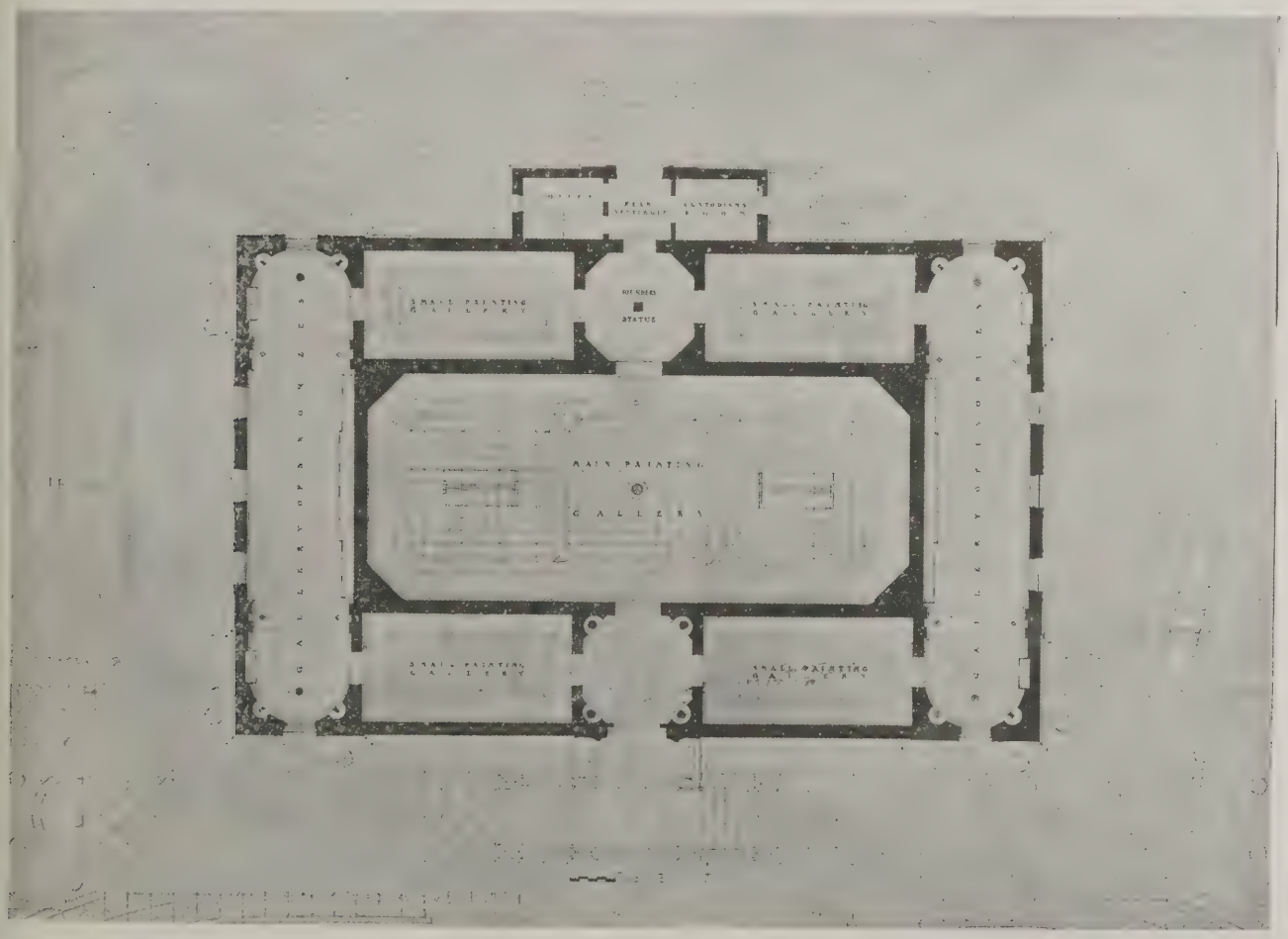
This building was originally designed by Alexander as officers' quarters in connection with the war prison at Princetown, but fell into disuse after 1816. From 1850 onwards, when the prison was remodelled, it was used as a public-house. Lately it has undergone alterations and improvements under the direction of Messrs. Richardson and Gill, with the pleasing result shown on our plate. Mr. J. Halfyard, of Princetown, was the contractor.

Late Georgian Houses at Blackheath.

Blackheath possesses a number of houses of the Late Georgian period, chief among them being The Paragon, illustrated in this series some time ago. Of the two now shown, one—the upper illustration—is Colonnade House, facing the Heath, while the other is a house in Blackheath Park. The former has all the refinement of detail characteristic of the late eighteenth century, while the latter, of a later date, bears the impress of that new interest in Greek forms which was aroused at the beginning of the nineteenth century.

Shop-front at Shrewsbury.

This is an old shop-front, and interesting as an example for study in connection with modern work. The drawing is self-explanatory.



DESHONG MEMORIAL GALLERY. CHESTER PA.

THE COUNTY HALLS OF CHELMSFORD AND LEWES.

[SPECIALLY CONTRIBUTED.]

OF recent years considerable study has been devoted to late eighteenth-century buildings, particularly to work of formality and refinement showing the influence of research. Viewed casually, many small buildings erected during the last quarter of the eighteenth century appear to have been designed by the same hand, and in some quarters it has been the practice, often without inquiry, to group the majority as emanating from the fertile brains of the Brothers Adam. Apart from their enormous output of design, it must be obvious, even to the tyro, that the whole of the work in England usually attributed to their genius and example represents something more than the energies of three enthusiasts working at top speed could accomplish. Moreover, close investigation of the subject reveals certain niceties and distinctions in manner, which have been observed by contemporary architects of lesser renown; and while making allowances for the prevalent fashion we are forced to admit that a coterie of artists flourished whose tastes followed a middle course between the masculine style of Sir William Chambers and the ornamental tendencies of the Adams. In the main, architectural design at this period was on Palladian principles, but the newer teaching from Greece and Rome had to be taken into account. This conduced to a strengthening of academic rules, without that loss of quality and human flavour which undue pedantry eventually produced. By the year 1790 the Palladian school was at its height; Chambers and Gandon were staunch adherents of a system whose rules had been accepted without question for a century; Athenian Stuart's full victory had yet to come; Henry Holland had just announced his invention of the Græco-Roman style, and encouraged a following, among whom the names of the Wyatts, Leverton, and Bonomi are foremost. In turn there arose the sub-coterie already mentioned, whose opportunities left them no choice but to follow the popular successes of the leaders. From the year 1780 to the end of the Regency, Græco-Roman was, with slight variations, exploited by all and sundry; and it is interesting to note that, although the number of official buildings erected after 1790 diminished, almost every place of importance called in an architect to design a small town hall or assembly room. The Shire Hall at Chelmsford, completed in 1792, is typical. The promoters of the building commissioned John Johnson, an architect of Camden Town, who in 1787 carried out the charming bridge over the River Chelmer in the centre of the town, to prepare the design. Johnson appears to have given every satisfaction to the authori-



THE SHIRE HALL, CHELMSFORD, AS ORIGINALLY BUILT.

ties, especially as regards the cost and the beauty of the decorations, for it is mentioned that, in pursuance of a vote passed at the quarter session in 1792, he was presented with a silver cup of elegant form. No doubt the fact that the architect succeeded in keeping the total cost below his original estimate weighed with his employers as much as the good qualities of the building. Thomas Malton made an engraving of the front, dated December 30, 1799, and the architect caused to be published in 1808 a folio volume of the whole design, with details, entitled "Essex County Hall." Judging from the list of subscribers, every architect of note purchased the book, some taking two copies.

In his description of the building Johnson confines his remarks to such terse terms as "It is presumed this plate may be sufficiently understood by the engraving," or "Plates V. and VI. require no explanation" — proof of the difficulty every artist experiences when called upon to describe his own work. A preface of nineteen lines in bold print is a little more enlightening. It reads: "The County (or Shire) Hall of Essex is erected at the north end of the town of Chelmsford; the south, or principal front, faces the approach to the town from the London Road; the north front adjoins the churchyard; on the west side is the court-keeper's house, etc.; and on the east the depot of arms for the Militia. These last-mentioned buildings consist of only one storey above the surface, as is shown on the east side of the perspective elevation. The small gates on each side of the middle entrance in the front of the building are never opened but during the Assizes, for the populace to pass to the courts; the great gates on these occasions being for the admission only of the judges, gentlemen of the Bar, magistrates, etc. A temporary iron railing is placed between the columns in the Market Hall, and from thence continued to the walls. The whole of the entrance-front and a small return on each side are of Portland stone; the other fronts of white brick, with Portland stone dressings." To this correct description a note of appreciation must be added regarding the reposeful, dignified character of the front, the beauty of the sculpture, and the charming texture of the rusticated basement. The building, however, has been subjected to alterations, which do little to add to its appearance. In 1856 the main staircase collapsed and was made the subject of an inquiry, and subsequent to this additions were made to the east side of the building; the arcade was screened and a clock inserted in the pediment to mar the effect. Also the square-headed windows on either side of the arcade were heightened at this period. The architect engaged the services of John Bacon, R.A., the sculptor, to model the three panels, Wisdom, Mercy, and Justice, over the central range of windows, and Coade and Seeley, of Lambeth, the patentees of the famous artificial stone, cast them from Bacon's design. Perhaps this accounts for the name of the firm occurring among the lists of subscribers, who put down for two copies of the book. The other ornamental feature of the front, including the consoles to the windows, the Composite capitals, and the interior plaster work, were doubtless supplied by the same firm.

The chief feature of the interior is the spacious County Room, with two good fireplaces, a rich segmented ceiling, and pilaster treatment.

Johnson appears to have carried out several works at Chelmsford, including the rebuilding of St. Mary's Church, after its damage in 1800, and alterations to the County Gaol, a building begun in 1773 by an architect named Hylyard. His other work in Essex is Bradwell Lodge, or the Rectory House at Bradwell, for the Rev. Sir Henry Bate Dudley, Bart. The summit of this building is crowned with an observatory of Ionic columns, arranged to take the chimneys of the house.

The County Hall at Lewes.

As a result of the publication of the designs for the Shire Hall at Chelmsford the architect secured the building at Lewes in 1811, which he completed in 1812 —*vide* an inscription on the plinth. Here is to be seen a totally different treatment, following an Italian model, similar in disposition to the front of the Massimi Palace at Rome, by Peruzzi. Unfortunately two additional bays added in modern times somewhat mar the composition. Johnson could not resist applying to Coade and Seeley for three additional casts of Bacon's sculpture, to form the chief decorative attribute of the Sussex Hall, the other details following his manner at Chelmsford. There is every reason to suspect that he was employed about this time to design the prisons.

During recent visits to Lewes and Chelmsford the writer has been struck by the similarity in the design of the buildings, and investigation led to the discovery of Professor Donaldson's copy of Johnson's designs, which he presented to the Royal Institute of British Architects in 1845.

Johnson's father, John Johnson, was a pavior, whose business was situated in Horseferry Road, Westminster. Where the architect obtained his early training or to whom he was articled is unknown, but it is a tribute to the general attitude of the public toward the arts at the time when he flourished that such convincing work could be produced by the minor votaries of architecture. A. E. R.



COUNTY HALL, LEWES.

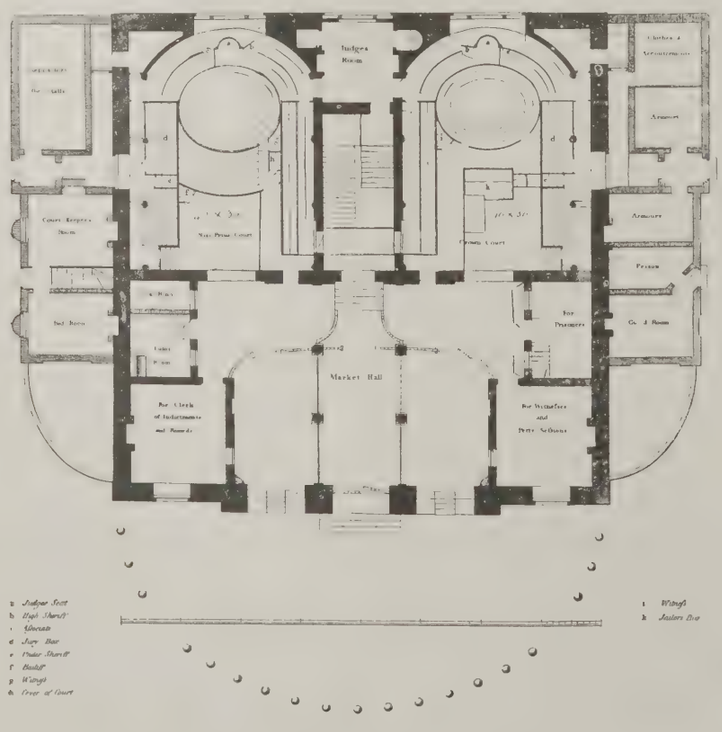


SHIRE HALL, CHELMSFORD.

JOHN JOHNSON, ARCHITECT.

THE FETESTI-CERNAVODA DANUBE BRIDGE.

The current issue of "Engineering" contains an interesting description of the railway bridge of Cernavoda, near which fighting has recently taken place. The bridge carries the trains from Bucharest almost due east across the many arms and marshes of the Danube on their way across the Dobrudja to the port of Constanza, on the Black Sea. The bridge system consists of two main bridges over the chief arms of the Danube and a series of viaducts and embankments crossing the marshy ground between the left eastern arm, known as the Borcea, and the right eastern, wider arm, the Danube proper. With its total length of eleven miles, this railway bridge is one of the longest built, and though it does not perhaps rank with the grandest structures, it imposed exceptional difficulties on its builders. Below Silistria the Danube, already 1½ miles in width, curves to the north and divides, forming a swampy, frequently inundated belt, up to twenty miles in width, known as the Balta. This Balta extends nearly 100 miles to the north as far as Galatz, where the reunited Danube turns sharply to the east, soon to divide into the many arms winding through the dismal swamps of the vast delta. The railway bridge crosses the Danube at the point where the river is nearest to the Black Sea, the distance being about forty miles. The railway from Cernavoda to Constanza (the Küstendje of the Turks) was the first built in Turkey, and runs near the ancient wall of Trajan, who conquered and colonised Dacia (106 A.D.). A bridge across the Danube was not seriously contemplated until the war of 1878, and the Berlin Congress had given the Dobrudja to Rumania. There were many difficulties to be overcome. The river beds and sands were continuously changing; the depth of the main arms, 14 m., was frequently raised to 21 m., and the whole district flooded over a width of twenty miles; the current and ice drifts are very strong, the winds terrific; the temperature may rise to 40 deg. C. and sink to — 30 deg C. (104 deg. F. to — 22 deg. F.), and skilled labour was hardly to be obtained on the spot. To reduce delay the work was entrusted to three firms—Messrs. Schneider and Co., of Creusot, built the Borcea bridge over the Fetesti arm of the river; Messrs. Cockerill, the viaducts, etc., across the Balta; and the Compagnie de Fives-Lille, the Cernavoda bridge. The construction occupied the years 1891 to 1896. The Borcea bridge, 418 m. (1,372 ft.) long, without approaches, is divided into three bays; the girders rise above the piers to a height of 33 m. and are inclined to one another, the width apart being 9 m. at the base and 2.6 m. at the top of the cantilever towers. The Cernavoda bridge of the Compagnie de Fives-Lille leaves, like the other bridge, a clear height of 30 m. (100 ft.) above mean water level, in accordance with the demands of the European Danube Commission. The total length of 750 m. (2,460 ft.) is divided into five bays, one of 190 m. and four of 140 m.; they rest on four piers and two abutments (brick and cement). The piers are founded on caissons of 300 sq. m. area, sunk under compressed air to a depth of 30 or 32 m., as on the Borcea branch; the abutment on the left bank is upon a rocky support. The piers are strengthened by powerful ice-breakers of granite on the upstream side. The two intermediate bays are constructed on the cantilever system, which was also adopted on the other bridge, and the semi-parabolic girders of 90 m. span are inclined to one another, deviating by 10 per cent. from the vertical. The superstructure is built of mild steel of a breaking strength ranging from 42 to 48 kg. per square millimetre (27 to 30 tons per square inch), and a minimum elongation of 22 per cent. The design allowed for a wind pressure on the bridge and passing train of 180 kg. per square metre (36.9 lb. per square foot), or 270 kg. (55 lb.) on the bridge alone. The weight of the metal structure was about 6,500 tons, and 50,000 cub. m. of brickwork were laid down, the cost amounting to 10,000,000 francs.



SHIRE HALL, CHELMSFORD: PRINCIPAL FLOOR PLAN.

(See page 248.)

GOVERNMENT AND THE BUILDING TRADE.

An important deputation from the building trade waited on the London Unionist members on November 16. Representations have also been made to the Liberals. Both the master builders and the trade unions (says the Lobby correspondent of the "Daily News") are of one mind that the trade has been treated unfairly during the war. Mr. Boyton, representing the London Master Builders, said that the trade, which, like others, had been much depleted through its members going to the War, was put in further difficulties, first by the hut building contracts, and then by the extensive building schemes necessitated by the call of the Ministry of Munitions for new factories and workshops. The Government Departments adopted no organised scheme of building operations; some firms were overworked, while others when their contracts ran out got no fresh orders and were left idle.

The deputation, which was introduced by Mr. Basil Peto, urged that the building trades should be in close touch wth the Ministry of Munitions, as the engineering trades had been. The Department was now calling on them for 43,000 men. At the present time building operations in London were stopped or continued in a most indiscriminate manner, which was bad for the trade and for employment.

Mr. W. F. Wallis, president of the National Federation of Building Trades Employers, having stated the case for the builders,

Sir William Bull asked whether the trade would be willing to pool their resources, as the shipbuilders had done in the Wear, and the suggestion was well received by the representatives of the trade. The Chairman, Lord Claud Hamilton, promised that the matter should be put before the Government.

OBITUARY.

Mr. John Drabble.

Mosborough, Derbyshire, has lost its oldest inhabitant by the death of Mr. John Drabble. He originally came from Harthill to serve his uncle, the late Mr. Richard Grant, as an apprentice to the building trade, and soon commenced business on his own account as builder and contractor. He not only erected the greater part of the village and cottage property in this and adjoining districts, but was also responsible for many chapels and schools and other public buildings. For many years he was a member of the old Highway Board, and later of the Mosborough Parish Council.

The Rev. R. M. Serjeantson, F.S.A.

The death is announced of the Rev. R. M. Serjeantson, F.S.A., rector of St. Peter's, Northampton. Mr. Serjeantson, who was fifty-four years of age, was a Fellow of the Society of Antiquaries, and the greatest living authority on Northamptonshire ecclesiastical buildings, on which he had published many books.

THE NEW LONDON.

In "The Times" of November 17, Mr. Herbert Baker has the following inspiring letter on the re-planning of London:

While any attempt to formulate a complete or definite scheme for our national war memorials in London must at present be premature, yet if we would avoid, when the time does come, the mistakes which have been too often made by us in the past of hurrying into ill-digested and disconnected schemes, it would be well if some ideas about them were publicly discussed, so that they could simmer in the mind of the public and be thought out by those qualified to give expert opinions.

A Great Kitchener Memorial.

The recent Charing Cross Bridge controversy, and the question now before us of a Kitchener memorial, should help us to realise the dangers ahead of us of missing a great and unique opportunity by premature decision and isolated effort. In the one case a great scheme for making a fair and useful heart to London quite recently escaped wreckage in the House of Commons by the good sense of its members, without the nation understanding its full significance; and, in the other, the proposed memorial to Lord Kitchener has taken the form of a benevolent object, which, although it is a necessary and popular one, and might be such as he himself would have wished, is not in itself alone sufficient if we desire to perpetuate his memory. A monument to a great man, if it is to endure and carry on its message in the mind of a nation, must appeal through the forms of art to the emotion and to the imagination.

Comprehensive Planning.

Our mistakes in art, as in many other spheres of our national life, have been due to our failure in foresight and in the power of planning on a comprehensive and generous scale. The rejection of Wren's plan for rebuilding the City after the Great Fire is now recognised as having been a very great misfortune to London from the point of view of convenience, economy, and beauty. The admitted artistic failure of London as a capital compared with Paris does not consist in the inferiority of its several objects of beauty, but in their lack of relation to each other and of unity of design and purpose. The recent difficulty of finding a place for the statue of King Edward VII. is a proof, if any were needed, of the artistic poverty of London in this respect as compared with Paris and other capitals of Europe.

New National Ideals.

We all feel confident that the outcome of this war will be an uplifting of the ideals of our nation and of our Empire. These ideals will inevitably need embodiment in the form of art, a healthy and rational art, let us hope, which will aim at giving to our Mother City more dignity, convenience, and comeliness, and a greater expression of unity to typify the capital of great nations. It is none too soon to begin to think out a comprehensive scheme in which gratitude for our fallen heroes and the expression of our national ideals for the future may be enshrined in a really great work of civic use and art. The greatest war memorial that we can conceive would be the acquisition by the nation of some splendid and worthy site which would be devoted to the memory of those who have fallen; to the monuments hereafter of those who shall have helped to bring about victory; and to the commemoration of the fruits of victory, the greatest of which we hope will be a United Empire. Whilst it is not for those who may be qualified to deal with the practical and artistic aspect of the question to look into the political future, yet it is the hope of all of us that the Federation of the Nations of the British Commonwealth will have been quickened by the war, and will some day demand not only a worthy site for its Parliament, but also the artistic expression in the cradle of the Empire of this great achievement in its history.

Charing Cross and the Thames.

What more sublime idea could be imagined for such purpose than to make more beautiful the view, which Wordsworth thought unrivalled, from Westminster to St. Paul's? While there may be in the neighbourhood of London other beautiful sites for Imperial Capitol buildings, yet there is none which would be to the same extent as this on the River Thames, the embodiment of our Empire's history and the spirit of this great city. The Thames, though no longer "silver streaming" as in Spenser's day, yet has great beauty of its own, and an age-long significance in our national life and history. Such a plan, too, would be in complete harmony with the proposals now made and so ably and convincingly set forth in the Press by Mr. John Burns, Sir Aston Webb, and Mr. Reginald Blomfield for rebuilding the Charing Cross Bridge, opening up the site of Charing Cross Station, and reclaiming a stretch of land on the south bank of the river, where a noble site for the future Imperial buildings might well be found.

The Heart and Spirit of London.

Could there be a more inspiring opportunity or privilege for the people of the whole Empire than to combine in such a scheme with the people of London in their practical and artistic needs, in acquiring this great site in the very heart and spirit of London as the memorial of the war and for all great Imperial purposes? The ultimate Imperial buildings, when the happy day comes when they will be wanted would give, as the focus on which the design would concentrate, that spirit of unity to the plan which is necessary for the highest architectural achievement, and which has been so wanting in the past in the planning of London. They would typify that political and Imperial unity which, if we can preserve it, will create out of the terrible sacrifices of the war an enduring foundation for a world-wide Commonwealth.

In "The Times" of the same date a leader was devoted to the subject of Mr. Baker's letter. It is headed:

A Great Scheme.

"We have," says 'The Times' leader-writer, "on several occasions before the war, insisted upon the need of a new Charing Cross bridge, and insisted further that it should be part of a great scheme embracing the south bank of the river no less than the north. There is, as everyone knows, an obvious and immediate need for a bridge other than the present railway bridge at Charing Cross. When the present bridge was allowed to be built London, in its blindness, threw away a great opportunity of adding both to its beauty and to its convenience. The bridge is an eyesore and an obstruction; it is as if a king kept his kitchen range in the main hall of his palace. It is the most signal example to all the world of our short-sightedness and insensibility. Therefore many have, merely on the plea of convenience, urged that the station should be set back on the south side of the river, and that a bridge for all kinds of traffic should take the place of the present bridge. But it was seen also, some years ago, that if this were done there was an opportunity for the improvement of a very central part of London that is now almost waste ground. At that point the south side of the river is cut off from the west merely by the fact that there is only a foot-bridge connecting them. With another bridge that bank would become a part of the West End. It was proposed, therefore, that to the new bridge should be joined a great scheme for the improvement of the south bank of the river. The scheme was shelved owing to the war until it was revived again by a proposal which, if it had not been thrown out by the House of Commons, would have made any such scheme impossible. And now, as Mr. Baker points out, the war itself is giving us a stronger reason than ever for a yet more ambitious scheme.

London a Super-Capital.

"After the war London will be the capital of the Empire, as it never has been before. It is at this moment the capital of a people consciously united by the great struggle in which every section is playing an equal part. After the war, also, we shall need a memorial to our dead such as we have never had before, a memorial which will express our gratitude to them and hand down their memory to all ages. Mr. Baker proposes a scheme in which these two great objects will be combined. . . . His proposal is that the reclaimed south bank of the river should be the site of the future Imperial buildings in which the new unity of the Empire will be expressed, and that the bridge itself should be part of a great memorial to those who gave their lives in the struggle through which that unity is being achieved. But he insists that we must not waste our opportunity by hurrying at the last moment into any ill-digested and disconnected scheme, as we have so often done in the past. What we need is forethought.

An Expression of National Unity.

"There is, we are convinced, a will of the whole nation, and of every part of it, for a worthy expression of the national unity and of the national gratitude. There is also a very general desire for the practical convenience which a new bridge at Charing Cross would afford. In this case, then, both higher and lower motives impel us in the same direction. But the national will will only find expression if a determined and far-seeing effort is made to express it. Mr. Baker himself is one of the greatest of living architects, and he speaks as an expert and not as a mere vague dreamer. His practised eye sees what could be done with a site now wasted, and we hope that the imagination of the whole Empire will be fired by his proposal, for this is a scheme for the whole Empire, not merely for London alone or for the United Kingdom alone. London is now the City of the Empire, and that fact needs to be expressed outwardly as well as inwardly, in our art no less than in our feelings and our institutions."

Letters from Sir J. D. Rees and Sir R. W. Essex are commented upon in our Editorial columns.

Charing Cross Bridge.

Notice was given in the "London Gazette" for November 21 of an application to Parliament next Session by the South-Eastern and Chatham Railway for an Act authorising the company to proceed with the proposed alteration and strengthening of Charing Cross Railway Bridge.

BRITAIN'S INDUSTRIAL FUTURE.

While the immediate business of the nation is to prosecute and win the great war in which she is now engaged, it cannot be too often reiterated that now is the time also to make preparation for the years which will follow the declaration of peace, and in particular for the strenuous and critical industrial struggle that lies immediately ahead. Very timely, therefore, was the address on "The Industrial Outlook and its Relations to the Gas Industry," which Mr. Horace Moore Thornton, J.P., as the new Chairman of the Council, delivered at the eleventh annual meeting of the Society of British Gas Industries.

Mr. Thornton began his speech on a cheering note of optimism, and asked his hearers to try to realise "the almost incredible strength of the Empire." Nearly 50 per cent. of the world's shipping flies our flag, he said. Our scientists, chemists, manufacturers, and engineers have ever been the foremost in the world. Judged financially, too, our status is undisputed; our investments outside Great Britain, for instance, include:

Railroads	£2,000,000,000
Mining	275,000,000
Tramways	84,000,000
Telegraphs and Telephones	44,000,000
Oil	43,000,000
Rubber	70,000,000
Gas, water, and electricity	62,000,000
Tea and coffee plantations	30,000,000
Nitrate properties	12,000,000
Land and miscellaneous industries	450,000,000

London has become the clearing-house of the world, and the centre of its financial activities. Is there a railroad to be built in South America, a township to be developed in Canada, rubber to be planted in Africa or tea in India, is there a river to be dammed or bridged in the uttermost parts of the earth—then to London comes the appeal for the necessary capital.

To support him in his contention that we need not fear for the future, Mr. Thornton quoted Sir George Paish as saying: "At the end of the war Great Britain will stand just about where she stood at the beginning," and Sir Edward Holden, chairman of the London City and Midland Bank, as affirming that "If we concentrate our attention more upon the possibilities of home production, instead of decreasing our labour output as we have done for so many years, the present difficult times through which we are passing will prove to be merely an interlude, the forerunner of even more prosperous times than the country has ever enjoyed in the past."

But Mr. Thornton laid great emphasis on the need for combined and continued national effort if we are firmly to grasp the opportunities that will offer themselves after the war. Dealing with the important subject of State aid for industry, he advocated the enlargement of the Commercial Branch of the Board of Trade, which, run by carefully selected business men on business lines, and with that continuity of policy which is so essential, should search every outlet for our productions, suggest possible business for British goods, initiate inquiries as to probable new commodities suitable for British manufacture, and, in short, organise, in the capacity of a State Business Building Department, the maximum output and export of our various industries and the success of our commercial activities.

Referring to the short-sighted way in which we are apt to neglect the Empire's industrial resources, Mr. Thornton instanced the case of nickel, that essential military metal, which, for lack of capital and refineries in Canada, which boasts one of the world's chief supplies, is dealt with in the United States of America by a foreign corporation. Consequently in war time Britain is unable to control the nickel of her own Empire. In a similar manner the Germans have been able to exploit our Australian zinc and the monazite sands found in enormous deposits at Travancore, in India. Recently, however, by energetic action taken in certain quarters in the gas industry, which depends for the manufacture of incandescent gas mantles upon the nitrate of thorium extracted from these rare earths, the Foreign Office has been enabled to stamp out the German control. A like awakening will be necessary in many other directions if our commercial supremacy is to be assured.

After touching upon the position of the worker in industrial productivity and the fallacy inherent in the "limitation of output" theory, Mr. Thornton proceeded to deal with industrial education, and suggested as an example to be followed the system of industrial research scholarships now in operation in the Universities of Pittsburg and Kansas. He said: "It is of great importance that we should encourage and support our Universities and Technical Schools, to enable them to provide for the industries of this country a large number of well-trained scientific men. We are glad that as a Society we assisted in founding the Livesey chair at the Leeds University, and that we have been able to provide annual prizes for successful candidates in the "Gas Engineering" and "Gas Supply" examinations of the City and Guilds of London Institute. I am sure as our funds permit we can find no better and more profitable form of investment than in educational encouragement."

Turning next to the question of commercial fuel, than which no matter of national importance is more frequently the subject of discussion by experts in the Press and on the platform, Mr. Thornton pointed out that the gas industry had every reason to feel proud of the way in which it had since the outbreak of war met the urgent demands made on it owing to the unprecedented circumstances of the past months. He prophesied that, the economy and efficiency of gas having been once established, this demand would continue in the times of peace, and proceeded to review the various factors which determined the selling price of gas. Cheap gas, he said, is naturally dependent upon the price of raw material, the employment of the most up-to-date engineering methods, the cost of capital, the sale of residual products, and the public demand. With regard to the four latter considerations the outlook was hopeful, and the gas undertakings were doing all they could, by research, by applying to Parliament for power to issue redeemable stocks, by facilitating the supply and increased use of the valuable by-products of gas manufacture, and by bringing the merits and possibilities of gas prominently before the public in every way open to them to make that outlook fulfil its promise, and ensure that reasonably priced gas should be at the service of every industry in the country for light, heat, and power for all the many and varied purposes for which it is so eminently adapted.

LEGAL.

Defective Staircase : Liability.

Groves v. Western Mansions.

November 21. King's Bench Division. Before Justices Bailhache and Lush.

This was an appeal by Mrs. A. M. Groves from a judgment of Judge Woodfall, of the Westminster County Court. The appellant's husband was a tenant of a flat owned by the defendants at 43, Huntley Street, Tottenham Court Road, and in coming down the stairs from the second floor flat to her own flat on the first floor she met with an accident owing to the worn edges of the stairs. The County Court Judge non-suited her and entered judgment for the defendants, holding that the appellant had no cause of action. From this judgment Mrs. Groves appealed.

The Court dismissed the appeal, but granted leave to appeal further.

Their lordships said the question was whether, upon the evidence of the plaintiff and her witness, Collins, the County Court Judge ought to have left the case to the jury. Appellant had lived in the block of flats for over a year and she admitted that she had been continually up and down the stairs during that period. The stairs were defective in regard to the edges. Assuming that evidence to be correct, the Court was clearly of opinion that there was no cause of action and that the County Court Judge was right. There was no concealed trap here within the meaning of the decided case of Miller and Hancock.

Builder's Disputed Account.

Tong v. Adamson.

November 22. Official Referee's Court. Before Mr. Muir Mackenzie.

This was an action by Mr. Tong, a builder, of Raynes Park, against Mr. Adamson, a builder, of High Street, Putney, to recover the balance of charges for erecting three houses at Putney. It appeared that the three houses differed from each other, and plaintiff gave £920 as his price. There was going to be an alteration in the levels, but that was to be arranged after the houses were built. The defendant, however, did not admit that. Then, after the houses were partly erected, a purchaser came along and wanted alterations and additions to the house he was buying and a price was asked for additional work. The contract was made in February, 1914, and in August the war broke out. Defendant suggested an extra allowance of 10 per cent., but plaintiff said it was to be 20 per cent. In September, 1915, one of the houses had been completed and sold, and plaintiff pressing for money, a dispute arose over figures and plaintiff asked for £100. Defendant prepared a set of figures and sent plaintiff a cheque for £46, saying that there had been an agreement of settlement on the basis of £46 payment. Plaintiff disputed any such arrangement and sent a receipt for the £46 as payment on account. Ultimately he brought this action.

Defendant counterclaimed for work he had done in completing the houses and alleged that the plaintiff's figures upon which he based his claim were inaccurate.

Evidence was given on both sides as to the valuations of the work done and that which had been left undone.

The Referee decided that there had been no settlement of the account by the defendant's payments and gave judgment for plaintiff for £75 18s. on the claim and on the counter-claim, with costs to follow the judgment.

BOOK NOTICES.

Architectural Sketching and Perspective.

Mr. H. W. Roberts, the author of this book, is the inventor of an ingenious method ("R.'s Method of Perspective") of overcoming the difficulties which beset the beginner in this subject, and his writings and lectures on it have no doubt served a very useful purpose in encouraging the faint-hearted to attack problems of which they are apt to fight shy. This book greatly advances that object by demonstrating that ordinary intelligence and a moderate degree of perseverance will suffice for a very useful mastery of all the problems in perspective with which an architect is likely to meet. Many architectural draughtsmen shirk perspective, and thereby lose a good deal of work, for the simple reason that a mere flat elevation lacks the persuasiveness of a perspective sketch. This book, with its thirty-six plates, illustrating a rational and progressive method of study, simplifies the subject to an extraordinary degree, and it will be found useful both by teachers and learners.

"Architectural Sketching and Drawing in Perspective.' With thirty-six plates illustrating the Drawing of Architectural Details and Sketching to Scale; including Chapters on the Plan and Measuring Point Methods, the Simplification of Perspective by "R's" Method, and on Figures, Foliage, etc. By H. W. Roberts. Price 7s. 6d. net. London: B. T. Batsford, 94, High Holborn.

Port Sunlight.

As an example and an inspiration, Port Sunlight has had a most important influence on the housing problem—an influence by no means confined to our own country, as crowds of admiring foreign visitors attest. The village was founded by Sir W. H. Lever in 1888, for the housing of his workers, and it covers, apart from the works, an area of 222 acres. More than a thousand houses have been built, or are in process of building, and the length of the broad roadways exceeds five miles. The first block of cottages was reproduced at the Brussels Exhibition of 1910, and was awarded the Grand Prix. A limit of ten cottages to the acre has been laid down, but the aim is to keep well below it. The general width of the roadways is 40 ft.—24 ft. to the road and 8 ft. for each footpath—but in some roads the total width is 48 ft. The village is constantly growing, and at the present time it includes a church, schools for 1,600 children, a Lyceum, a cottage hospital, a gymnasium, an open-air swimming bath, a post office, a village inn, village stores, a fire station, an Auditorium seating 3,000, the Collegium, the Gladstone Hall, the Hulme Hall, Coartners' Club, with billiard-rooms and bowling green, a village fountain, and the Hulme Art Gallery, which is to house also a public library.

While the cottages are, almost without exception, of charming design, they show, as Mr. Raffles Davison remarks, "no freak features," and in every case convenient planning has been the main object. Dainty sketches and clear photographs show that this aim is by no means incompatible with the beauty for which Port Sunlight Village is renowned; and the typical plans given in the book are in most cases exemplary. Mr. Davison's book, which for the first time does a fair measure of justice, in description and illustration, to this pioneer adventure in model housing, is as useful as it is interesting.

The names of the architects whose buildings are illustrated are: W. and S. Owen, Grayson and Ould, Huon A. Mateir, J. J. Talbot, J. L. Simpson, Douglas and Fordham, Maxwell and Tuke, Jonathan Simpson, and Pain and Blease.

"Port Sunlight: A Record of its Artistic and Pictorial Aspect." By T. Raffles Davison, Hon. A.R.I.B.A. Pages xiv. + 35 + 33 Plates. Price 5s. net. London: B. T. Batsford, Ltd., 94, High Holborn.

NEWS ITEMS.

Willesden House Famine.

The housing problem has become acute in Willesden, and there is now such a famine in working-class tenements that workers employed in the district are compelled to live several miles away.

New Housing Loan for Selby.

At last week's meeting of the Selby Urban District Council, the Property Committee reported that the Local Government Board had sanctioned the loan of £5,400 for the erection of artisans' dwellings in Kitchener Street.

Wages Movement in the West.

Workmen in the building and allied trades at Penzance have appointed a committee of one representative from each firm to approach the employers for an advance of wages in consequence of the dearness of food.

A Memorial Brass.

Lord Bolton has erected a memorial brass, resting on a marble base, in Wensley Church, Yorkshire, to two village youths who were lost at sea in the naval battle off Jutland. They had been choristers in Wensley Church from an early age.

Stonework Restoration.

The stonework of the Civil Service Stores, Covent Garden, is being restored by the Stone Preservation Co., Ltd., of 9a, Little James Street, Gray's Inn, London, W.C., under the direction and supervision of Messrs. George Lansdown and Brown, architects.

Wolverhampton Wages Movement.

Operatives engaged in the building trades of Wolverhampton and district have given notice for an increase of twopence per hour in wages, and the Employers' Association have replied with a notice to reduce wages by 1½d. per hour. Before the war the time rate to plumbers, carpenters, and bricklayers was 9½d. per hour, but during the last twelve months this was increased to 10½d. as the outcome of arbitration proceedings.

The Visit of the Belgian Town Planning Committee to Oxford.

The "Independance Belge" has published an account of the recent visit to Oxford of the Belgian Town Planning Committee. The writer describes Oxford as "assurement unique au monde." He gives various particulars of what the party saw in the colleges, at the Bodleian, and at the Military Hospital, and especially thanks Sir Herbert Warren, Bodley's Librarian, and Lieut.-Colonel Ranking for their courtesy. Mr. Harry Paintin acted as guide to the party, and the writer expresses their great gratitude to him for the infinite pains which he took and his interesting descriptions of Oxford's architectural riches.

Memorial at the Royal Eye Hospital.

Miss Ellen Terry, unveiling a memorial tablet to the late Professor Malcolm McHardy at the Royal Eye Hospital, St. George's Circus, Southwark, on November 15, stated that Dr. McHardy, who was for forty years associated with the hospital as house surgeon and consulting surgeon, had always regarded the institution as his child, and it owed as much to his devotion as to his talent. Mr. Keith D. Young (honorary architect to the hospital) designed the memorial.

Dublin Town Planning.

Mr. Raymond Unwin has delivered, in the Theatre of the Royal Dublin Society, a lecture on "The Town Planning of Dublin." The lecture was arranged by the Housing and Town Planning Section of the Civics Institute of Ireland.

St. George's Hospital Extension.

At a special court of the governors of St. George's Hospital, Lord Greville presiding, plans were approved for a new building on the site of the four houses in Knightsbridge, belonging to the hospital, and of the present officers' residence, to provide new casualty and out-patient departments, officers' and nurses' quarters, as detailed in last week's issue of the Journal. The new building will consist of basement, ground floor, and six floors above, and will extend from the west end of the Wellington ward to the Tube Station, with a wing at right angles to this, extending to the Medical School.

The Largest Tea-rooms in the Kingdom.

Cranston's new premises in Renfield Street, Glasgow, which have just been opened to the public, are, it is claimed, the largest place of their kind in the United Kingdom, the building having accommodation for 847 persons. The kitchen is situated at the top of the building, and the most modern system of service connects it with the various dining-rooms. The furnishings are admirably in keeping with the colour schemes of the different rooms, which were the work of Mr. John Ednie. The reconstruction of the building was carried out by Mr. James Miller, architect.

Mr. Muirhead Bone's Pictorial Record of the War.

For some months Mr. Muirhead Bone has been engaged as a commissioned officer in the British Army in France makings drawings of places and incidents in the War for permanent record in the British Museum. Reproductions of some of these drawings will be published shortly (by authority of the War Office) in monthly parts, with appropriate letterpress. Each part will contain facsimiles of over twenty drawings; and the first will be published early in December with a preface by General Sir Douglas Haig. Mr. Bone, as our readers are well aware, is an artist of international reputation, and the whole volume will form a unique record of the conditions of the Western Front in modern warfare.

Vanderbilt Memorial on Surrey Common.

A granite column in memory of the late Mr. A. G. Vanderbilt, who went down with the Lusitania, is to be erected on Holmwood Common, near Dorking, by the London Coaching Club. The spot chosen is close to the main road from London to Brighton along which Mr. Vanderbilt used to drive his coach, the Venture. The plan has been submitted to the Dorking Rural District Council for approval. It is intended to erect similar memorials at other spots on the route. Lord Leconfield is interesting himself in the scheme, and the arrangements are in the hands of Mr. Alan Lupton, 47, Hans Mansions, London, S.W.

(*News Items continued on p. xv.*)

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

Advertisers are purchasing the circulation of a paper in buying space for their announcements, and we are able to announce that "The Weekly Nett Sale of The Architects' and Builders' Journal is larger than that of any other Architectural Journal."

Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions, 3s.

BUILDER'S General Foreman. Competent, reliable, good draughtsman and manager of men; excellent references.—C. W., 6, Roland-road, Walthamstow, N.E.

BUILDER'S and Contractor's Foreman, carpenter in trade, seeks re-engagement; just completed Government contracts; energetic and competent; town or country.—J. L., 20, Wellington-avenue, Lower Edmonton.

BUILDER'S General or Working Foreman requires engagement; fourteen years' experience on various classes of work, London and country; good references; by trade carpenter and joiner; any offer considered; now disengaged.—Curtis, 509, Waterside, Chesham, Bucks. 924

CLERK of Works (above military age) desires engagement; twenty-five years' first-class experience; excellent testimonials and references London and country architects.—W. P., Oaklea, Priest-lane, Shenfield, Essex. 930

CLERK-DRAUGHTSMAN, 41; country or suburbs; many years' experience; ironfounders and builders; bookkeeping, wages, accounts, etc.; detail drawings, plans, perspectives, etc; good refs.; moderate wage. C., 98, High-street, Tooting, S.W.

FOREMAN of Works or General Foreman; practically experienced in all trades; carpentry, joinery concrete, steel, brickwork, drainage, detail draughtsman, quantities; competent and energetic; with good references.—Daniel, 42, Albion-gardens, Hammersmith.

GENERAL Foreman; town or country; new or alterations; large experience in London work; just finished hutments; carpenter and joiner; good references.—C. H., 6, Marshalls-road, Sutton, Surrey.

GENERAL or Working Foreman of Carpenters; used to various classes of work; new or alterations; twenty years' reference from last employers; free at once; good timekeeper.—280, Markhouse-road, Leyton, N.E.

GENERAL Foreman; town or country; competent, experienced, practical; any description of building; age 47.—A. B., 4, Havelock-road, West Kensington, London, W.

GENERAL or Working Foreman seeks re-engagement; new or alterations or estate; first-class references; trade bricklayer; age 43; abstainer; practical experience in all branches.—W. B., 62, Farley-road, Catford.

GENERAL or Foreman Carpenter; age 42; huts or general construction; wages mod.—G. P., 49, Colchester-road, Leyton, E.

MILL Foreman wants job; machinist; good knowledge of joinery; twenty years with London builders; age 35.—A. B., 2, Third-avenue, Queen's Park, W.

PAPERHANGING (any description) Wanted (piecework); high reliefs; anaglyptas, leathers, soirettes, embossed papers, Teko, Emdeca, canvas, and all latest productions; panelling and special designs; town or country.—Logan, 185, Loughborough-road, Brixton, S.W.

PLUMBER and Hot-water Fitter (registered); contract or otherwise; town or country; good references.—F. Charles, 116, St. Dunstan's-road, Hammersmith, London, W.

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News Items (continued from p. xiii.).

Housing Problem Acute in Carlisle.

A large influx of labour into the Carlisle district has resulted in an acute housing problem. In an ejectment case before the magistrates it was stated that a house of three rooms, which in ordinary times commanded from 3s. to 4s., was now let to a workman at 10s. a week.

Edinburgh Architectural Association.

The second meeting of the fifty-ninth session of this Association will be held in the Lecture Hall of the Edinburgh College of Art, Lauriston, on Thursday, November 30th, at 7.30 o'clock p.m., when Mr. P. MacGregor Chalmers, I.A., F.S.A., Scot.), of Glasgow, will deliver a lecture on "The Abbey of Iona," illustrated by lantern slides.

Waterproofing a Heating Chamber.

It is often noticeable that heating chambers when most required are the least efficient, owing to flooding in the rainy seasons. We hear that the heating chamber of the workhouse at Selly Oak, Birmingham, which is situated in ground frequently saturated with water, was constructed with Pudloed cement, and although it is built on a most trying site good results have been attained.

Stained-Glass Window to a Living Clergyman.

The Rev. W. A. Wickham, who has been the vicar of the large and populous parish of St. Andrew's, Wigan, for thirty-eight years, has accepted the living of Ampton, near Bury St. Edmunds, and in order to commemorate his long service the parishioners of St. Andrew's, of which he was the first vicar, have decided to place a stained-glass window on the east side of the church. The parishioners have handed to the reverend gentleman the designs of the window as a personal gift, and a wallet containing 100 guineas.

Rebuilding in France.

Under the auspices of the British Auxiliary of the French Protestant United Rehousing Committee, a meeting has been held at the Memorial Hall, Farringdon Street, to receive a delegation from France. Lady Askwith presided. Mr. Harry Jeffs said that ultimately the French Government would undertake the colossal work of permanently rebuilding the ruined towns and villages, but the French committee wished at the earliest moment to rush up some sort of rough shelters, to which the scattered families might return, reconstitute their family life, and pick up the broken threads of their existence. M. Cornelis de Witt and other members of the delegation appealed for generous support to the movement.

Important Rent Act Judgment.

In the Divisional Court, on November 16, Justices Ridley and Avory dealt with the case of Sharp Brothers and Knight v. Chant, which was an appeal by plaintiffs from the decision of the Judge of Birmingham County Court and raised a point affecting many tenants. The question was whether under the Increase of Rent Act, 1915, the respondent, the tenant of a house, was entitled to deduct from his rent a sum of 5s. in consequence of the rent having been increased sixpence a week above the pre-war standard rent, from November 25, 1915, when the Act came into operation. The deduction was in respect of a period of ten weeks. The County Court Judge had allowed the tenant's claim. Mr. Justice Avory, giving the decision of the Court, said the extra sixpence a week was not in the nature of "a fine or premium." Under protest it was paid as increased rent. It was not a voluntary payment, and his lordship thought it was recoverable by the tenant. The decision of the County Court Judge would be upheld and the appeal dismissed, with costs. Leave to appeal was given.

A History of Edinburgh Architectural Association.

The Council of the Edinburgh Architectural Association has been frequently approached with a request to draw up for publication a record of the History of the Association during the past fifty years. The preparation of the work has been entrusted to Mr. G. S. Aitken, an original member, who has now completed his MSS.; but before going to press, the Council is desirious of ascertaining the measure of support likely to be accorded the effort. The work, it is expected, will be found a faithful and interesting record of a now well established Society, whose fifty years' proceedings are considered worthy of preservation. Communications on the subject should be addressed to Mr. James Kerr, Hon Secretary, 117, George Street, Edinburgh.

PROFESSOR ABERCROMBIE ON THE RE-PLANNING OF DUBLIN.

At the weekly lunch meeting of the Dublin Rotary Club, in the Central Hotel, Exchequer Street, Professor Patrick Abercrombie, Liverpool University, spoke on the subject of the "Interdependence of Housing and Transport." Professor Abercrombie was, with Messrs. S. A. and A. J. Kelly, of Liverpool, winner of the £500 prize in the recently concluded town-planning competition.

Professor Abercrombie, in the course of his address, said the subject of Dublin re-planning appeared to be the most interesting problem that one could possibly have to deal with. There were two special features which gave it particular interest, and made one feel that it was possible to arrive at some sort of solution. The first was the definiteness of their housing problem. Instead of having to provide for an indefinite period of town growth, they had the problem before them of rehousing a large number of people which ought to be and was being undertaken. The Departmental figures showed that 64,000 had to be rehoused, and that gave them something definite to work on. The second feature was the peculiar position of Dublin from the fact that during the last century it had not as a town grown to any large extent. In some English towns they had terrible problems to face, such as buying valuable houses and widening existing roads. In Dublin they had escaped that. They might be compared more to Continental towns; they had been congested in a smaller area. They had now the unique chance of improving themselves without that enormous expenditure which was necessary in so many of their English towns.

Those who laid out Dublin in the 18th century had extraordinarily fine ideas. He did not know of any other town that had a circular road such as they had laid out without any ideas of fortifications. It was a splendid asset they had to help them. It gave them access from different parts in an admirable way. What were they to do with the 60,000 people that wanted rehousing? One solution was to make use of vacant land and derelict sites within the town, which they estimated came to something like 300 acres. That, at the rate of 100 people for an acre, would rehouse 30,000 in good houses. They must look further ahead, however, and see what was the general density of population in Dublin. Taking the greatest density and subtracting areas such as the Liffey, Trinity College, factories, etc., they found that the existing density was only 95.8 per acre of the inhabitants. The figure he took in preparing his plans was 75 people per acre, and that gave them the number 59,000 who should be taken out of the centre of the city in order to relieve congestion. The chief reason that one could urge for this course—taking them outside—was first that it was more expensive to buy sites in the town; secondly, that land in the outskirts was cheap; and thirdly, they were developing a new type of suburban housing.

The speaker advocated the provision of wide avenues with the view to more rapid transport from the outskirts to the centre of the city, and mentioned Cabra and Crumlin as likely districts for these. They had at present some excellent roads radiating from the town, and he hoped they would never be encroached on. They wanted new lines laid down and steps taken to preserve existing ones when their great suburban development would take place. He advocated a projected circular road round the city, and said when dealing with the rehousing of people it was not sufficient to take plots here and there, and put on admirable schemes which might be absolutely splendid in themselves, but without relation to a general scheme of transportation. If the competition had had any effect in bringing about the ideal on which they worked they owed a debt of gratitude to Lord Aberdeen for initiating it.

THE ARCHITECTURAL ASSOCIATION.

A special general meeting of the Architectural Association was held at 37, Great Smith Street, Westminster, S.W., on November 20, at 4.15 p.m., Mr. H. M. Fletcher (vice-president) in the chair.

The Secretary having read the minutes of the previous meeting, which were confirmed, the Chairman proposed a vote of sympathy to the relatives of members who have fallen in the war since the last meeting on May 1: Messrs. W. H. Hillyer, D. J. Gordon, N. W. Hadwen, P. G. Mosse, L. S. Ford, A. E. Corbett, J. H. Hopewell, A. E. Vey, A. B. K. Cook, F. D. Sowerby, J. S. Huxley, Alick G. Horsnell, W. C. Butterworth, W. A. Stanhope Forbes, B. G. Bowles, Philip E. Webb, R. M. Haig Philp, J. H. Taylor, G. W. Stuart, and F. S. Chesterton. The motion was carried in silence.

The following gentlemen were nominated for membership: Mr. P. R. Udwadia, Mr. A. H. Basto, Mr. Rowland Tillett, Mr. C. E. Cat, Mr. C. M. Master, Mr. E. B. Morley.

Vacancies on the Council were announced by the Chairman, namely, the hon. treasurership caused by the resignation of Mr. F. Winton Newman on account of his having joined the Royal Naval Air Service, and that of an ordinary member caused by the death of Mr. Philip E. Webb. Nominations for candidates to fill these vacancies will be received at the next general meeting, to be held on Monday, December 4, at 4.15 p.m.

LATE CONTRACTS, ETC.

MISCELLANEOUS.

December 3.—**MATERIALS. Trimdon Grange (Durham).** — Supply of oils, grease, brattice cloth, iron, steel, metal and brass castings, bricks, etc., for the first six months of 1917. Particulars from Storekeeper, Trimdon Grange Colliery, co. Durham.

December 4.—**MATERIALS. Bolton.**—Supply during twelve months commencing January 1, 1917, of the following: Timber for wheelwrights, iron for blacksmiths, lime for mortar making, lime for sewage purification, scavenging brooms and handles, spades, shovels, and forks, for the Cleansing and Sewage Committee. Particulars from Town's Yard, Falcon Street, Bolton.

December 5.—**SPAR. Truro.**—Supply and delivery to the Council's gas bank depot of about 200 cubic yards of broken or unbroken spar, for the City Council. Particulars from F. A. Barnes, A.M.I.C.E., City Engineer and Surveyor, Municipal Buildings, Truro.

December 5.—**MATERIALS. Dublin.**—Supply of the following, for the Dublin and South-Eastern Railway: Iron; iron castings; steel files, etc.; carriage bolts; permanent-way fastenings; tin and lead; paints, oils, etc.; varnishes; oils (lubricating); oils (burning); brushes, brooms; ironmongery; glass; leather; native timber; foreign timber; slates, tiles, etc.; cement; Indian rubber; plumbing and gasfitting; carriage gas mantles; carbide of calcium. Particulars from R. D. Griffith, Secretary, Westland Row Station, Dublin.

December 6.—**LIME. Sligo.**—Supply of lime for ensuing twelve months, for the Corporation. Particulars from J. Shea, Town Clerk, Town Hall, Sligo.

December 7.—**CEMENT, ETC. Colchester.**—Supply of cement, paints, and oils, etc., for the Committee of Visitors of Severalls Asylum. Particulars from R. Overend, Clerk of the Asylum, Severalls, Colchester.

December 8.—**MATERIALS. Middlesbrough.**—Supply of the following for the Tees Conservancy Commissioners: Timber, castings (steel and iron), bolts and nuts, brass and copper work, cement, oils and paints, ropes, ironmongery and general stores. Particulars from John H. Amos, General Manager, Head Offices, Middlesbrough.

January 15. — **WATER METERS. Johannesburg.**—Supply and delivery of 600 ½-in. positive water meters, to be delivered during the period July-December, 1917, and/or, alternatively, 1,200 ½-in. positive water meters, to be delivered during the period July, 1917, to June, 1918, for the Municipal Council. Particulars from the Department of Commercial Intelligence, 73, Basinghall Street, London, E.C.

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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, December 6, 1916. Volume XLIV. No. 1144.



THE TOWER OF LAVENHAM CHURCH, SUFFOLK.

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 6, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1144.

EDITORIAL.

ALTHOUGH action is the order of the day, it is necessary to superadd a fair modicum of hard thinking; and a presidential address to a professional body is a fit occasion for revealing the trend of rational opinion on matters of vital moment. In recent presidential addresses, the leaders of professional and industrial thought have performed a valuable national service by contributing materially to the sum of practical wisdom, and the address delivered by Mr. F. E. Wentworth-Sheilds as president of the Concrete Institute, which we reproduce almost *in extenso* in the Concrete and Steel Section of the present issue, is a typical instance. It is constructive as well as critical, and is inspiring by the logic of facts rather than by exhortation. Broadly speaking, it shows that in science and industry this country is doing pretty well, but is capable of doing very much better, and, moreover, it inspires confidence that, in the pursuits of peace, the country will rise to its great occasion no less manfully and energetically than in the prosecution of the war.

* * * *

It is an occasion that, as Mr. Wentworth-Sheilds said, "will call for all the best brains that our country can give," and probably, in choosing this expression, the speaker had in mind the essential virtue of "give." In meeting the serious problems with which we are faced, there must be more of the spirit of give-and-take—an exaggeration of the corporate rather than of the individual sense, if exaggeration of any kind is admissible—let us call it concentration on the national welfare rather than on personal interest. This should now be much more easy than it was before the war demonstrated the supreme need for it and military mobilisation showed it in action. Hence the very significant quotation from the annual report of the Advisory Council on Research: "Some manufacturers, at any rate, are beginning to realise that their most numerous and dangerous enemies are, not their fellow-countrymen, but powerful combinations of manufacturers in other countries, supported by every device of rate and tariff that their Governments can provide. . . . In the numerous conferences we have had with representatives of different industries, we have been impressed with the spirit of co-operation which is growing up, and the willingness to accept our suggestions for the initiation of research for the benefit of the trade as a whole." In the circumstances, any other attitude would be strange and unnatural, but the evidence is nevertheless gratifying.

* * * *

This spirit must apply all round. State Departments must be less lofty and aloof; educationists must sink their differences with regard to the rival claims of science and the humanities; capital and labour must drop the foolish and ruinous notion of mutual antagonism; and the State shall be as the head of a happy and prosperous family. State intervention in civil affairs has not been invariably happy, and it has not always been tolerated with a good grace by a people whose natural character is strongly individualistic and hates anything that seems to interfere with freedom of action and independence of control; but the war has plainly demonstrated the advantages of a benevolent despotism, if that can be called despotism which is in reality but a systematic co-ordination of forces, representing the popular will, interpreted, directed, and expressed by rulers of its own choice. Similar unanimity—or, rather, unity of purpose—procured by somewhat similar means, is surely possible in relation to peaceful endeavour, and it may possibly involve a similar pooling of resources, with the object of establishing funds for the endowment of research, for the promotion of scientific and technical education, for the development of industries that need nursing through their infancy, or that are in their maturity threatened with extinction by the "peaceful penetration" from abroad that, similarly subsidised, has wrought such havoc on our own unsupported or unprotected manufactories. Trade banks seem apt for this service, but it remains to be seen whether, as at present constituted or projected, they can yield it at all adequately.

* * * *

In his glance at the higher education, Mr. Wentworth-Sheilds hits upon a distinct blot in the present system. In education there are too many schoolmasters; hence its remoteness from practical affairs. Your typical college don despises practicality, and science he regards as a vulgar intrusion of the polytechnics. He is beyond reformation; but in the remodelling of national education seats on the senatus should not be the close preserves of men who have merely distinguished themselves in the schools, and, knowing absolutely nothing of the outside world, pride themselves on this worst form of ignorance, glorying in what should be their shame. They are strange survivals of that mediæval scholasticism which, it would appear, was "scotched, but not kilt," by the Renaissance. That wave left them high and dry in their fastnesses, but in the new Renaissance they will surely disappear, to make way for men who will teach what they have learned from practical experience, not what is gleaned from ancient books—men who are in close touch with the world's work, and are intimately conversant with the things that matter, including architecture. This is a reform upon which the architectural and engineering organisations should have, in the immediate future, much to say and to do; for they speak with authority, and they have already built up systems which need merely to be switched on to the

universities, with advantage to all concerned, and to the very considerable advancement of vital national interests.

* * * *

Young architects are winning high distinction in the field of honour. Two outstanding instances were recorded last week. Second-Lieutenant William Godfrey Newton, A.R.I.B.A., youngest son of the President of the R.I.B.A., has been awarded the Military Cross "for conspicuous gallantry in action." So runs the announcement in the "London Gazette," which continues: "He placed a lamp in the open to guide a night assault. Later, although wounded, he rallied the men round him and bombed the enemy with great courage and determination. He set a fine example." After the description, the comment seems rather superfluous. Doubtless it is a "sound form of words" deemed officially to be appropriate to such occasions; for we observe that it is repeated with respect to Lieutenant George Frederick Bowman, who also is an architect and the son of an architect, and, before the war, was engaged in his father's office in Greek Street, Leeds. Lieutenant Bowman, the official record runs, "led his men with great courage and determination. Later, he assisted in repulsing enemy counter-attacks, and himself led several daring bombing attacks. He set a fine example." So the parallelism between the cases is a matter of deeds as well as of words and antecedents. But the words do not stale with repetition, since they are warranted by such glorious deeds. Second-Lieutenant Newton, however, was severely wounded (we are delighted to learn that he is making a good recovery), whereas Lieutenant Bowman, although he has seen much severe fighting in Gallipoli and in France, has happily escaped injury.

* * * *

A fortnight ago we drew attention to the excellent work that is being done by the A.A. Active Service Committee in ministering to the necessities and comforts of men who enlisted through the A.A. War Service Bureau. This week we print a letter from the A.A. President, Mr. A. G. R. Mackenzie, in which the need for donations is further emphasized. Prompt help is urgently needed, and unless it is forthcoming the good work must stop—or, rather, it must anguish; for we may be very sure that Mrs. Maurice Webb and her active helpers will not allow it to cease utterly. Also we feel equally confident that the profession will not allow the burden to fall on the few, but will be glad to share it, and by this means to convey to our brave fellows at the front an assurance that they are always in our thoughts. Architects being reading men, it is not surprising to hear that the supply of periodicals is short of the demand. It is suggested we should mention that we are sending weekly, through this agency, a score of copies of the Journal, as well as other copies despatched independently. We adopt this suggestion mainly for its implication that, in this and in other ways practising what we preach, we are in the better position to commend the excellent work of the committee to the earnest attention of our readers.

* * * *

In a letter signed "Builder," which we print on a later page, there is a point that seems to call for comment. After expressing general agreement with Sir William Lever's housing proposals, our correspondent incontinently suggests "the removal of the ban" on back-to-back houses! Face to face with the amenities of Port Sunlight, he can nevertheless advocate its antithesis. For our part, we cannot pretend to such catholicity. Port Sunlight all men must admire, but back-to-back houses are almost as universally condemned, and only the direst exigencies would give them the remotest chance of perpetuation. Indeed, if our choice were confined between back-to-back and the mud hovel disguised under the name of pisé de terre, we should probably be inclined to vote for the latter, as the less hardened and inveterate form of sin; but, all things considered, we should, on such an occasion, prefer not to exercise the franchise. Like the elector who hated the rival candidates for Parliament, we would support neither, but would gladly vote against both.

* * * *

It was stated in a cablegram to the "Morning Post" of November 27 that "Mr. Bamford, Australian Minister for Home Affairs, announces the postponement until a more favourable period of the competition for architectural designs for the new Parliament House at Canberra." And so "All's well that ends well." It had been feared that, for some inscrutable reason, the Federal Parliament would go on with the competition in spite of the threatened resignation of at least one of the assessors, in spite of the unanimous advice of the chief architectural organisations, and in spite of the war, which is, of course, the fundamental cause of the objection; but common sense has prevailed, the architects who are in the field fighting for the Empire will not be callously passed over in favour of non-combatants and neutrals, and, if there is any virtue in "poetic justice," Australia will get, by patient waiting, a far better building than in all likelihood would have been obtainable by ill-omened hustling. We offer the Federal Parliament our sincere congratulations on the moral courage it has shown in rising superior to mere obduracy.

* * * *

How eccentrically the Finance Act (1910) works was illustrated last week in a case (Ferguson v. Inland Revenue Commissioners) that came before the Court of Appeal. A man bought about ninety-three acres of land at Enfield with the object of establishing brickworks. He spent about £36,000 on buildings and equipment, and began operations on about half the land, letting out the remainder, on agreements for short terms, in three plots, one of which was used for agriculture, while the other two were cultivated as nursery gardens. It was held by Mr. Justice Atkin, in the lower court, that these three plots were not developed "by the erection of buildings for the purposes of any business, trade, or industry other than agriculture" within the meaning of Section 16, subsection 2, of the Finance Act, 1910, and that they were therefore subject to undeveloped land duty. This decision was upheld in the Court of Appeal. Now, it was made quite clear that these three plots of land were held in reserve pending the development of the brickmaking industry; but the Master of the Rolls, in giving judgment, put the gist of the matter into a single sentence—"Speculative intention ought not to be treated as development." That is no doubt what is called "good law," but it is no less clearly an offshoot of bad legislation—bad if only because it discourages and penalises "speculative intention"; bad also because of the dubiety that arises from these further observations by the Master of the Rolls: "The question was, what area of land was for the time being reasonably necessary for the enjoyment of the property? No doubt some portion of the adjacent land was necessary for the conduct of the business, but not the whole of it." Yes; but how are such points to be determined? It would be interesting to know whether, if the brickmaker had allowed his land to lie idle instead of letting it for profitable use, and had, by strewing it with a few utensils or even brickbats, created the impression that the land was technically part of his brickfield, that would have enabled him to escape undeveloped land duty.

HERE AND THERE.

APHORISMS, to get their fullest flavour, must be sipped, not taken in large spoonfuls; which, of course, is the very obvious reason why all books of clever sayings, anecdotes, and similar things, jade the senses if one attempts to go soldly through from cover to cover: for what is quite excellent when taken by itself becomes almost jejune in company with the ultra good, the diamonds of wit or wisdom. Therefore, in gathering together a miscellaneous collection of aphorisms relating to the arts and the practice of architecture, I run the risk of creating a sort of internecine strife among them. Still, in a time of War, when we expect to take risks, I will make the attempt, with the hope that a solitary page may be regarded as a sip. I do not pretend that they are at all comprehensive, though they extend, in point of date, from dim antiquity to the present day, and I am only too conscious of gaps that more leisure for an assiduous search might enable one to fill. The most I can do is to group them chronologically, and, having introduced them to the notice of the reader, to retire myself discreetly, holding my tongue while greater men speak.

* * * *

Tenth Century B.C.

By much slothfulness the building decayeth, and through idleness of the hands the house dropped through.—ECCLESIASTES x., 18.

Fifth Century B.C.

It is not possible for a man who follows many arts to do everything well.—XENOPHON.

First Century A.D.

Fame is the nurse of the Arts.—CICERO.

There is this difference between the products of the artist and the craftsman: the artist produces what he himself finds good, the craftsman what is profitable. Phidias, for instance, finished his work with the greatest care, though he did not sell it.—SENECA.

An architect should be ingenious, and apt in the acquisition of knowledge. . . . He should be a good writer, a skilful draughtsman, versed in geometry and optics, expert at figures, acquainted with history, informed on the principles of natural and moral philosophy, somewhat of a musician, not ignorant of the sciences both of law and physic, nor of the motions, laws, and relations to each other, of the heavenly bodies.—VITRUVIUS.

Sixteenth Century.

It is not sufficient that an artist, when he has completed his work, shall remark, as many do in excuse for its defects, "it has the exact proportions of the antique and has been copied from good masters," seeing that a sound judgment and correct eye avail more in all cases than does the mere adjustment with the compass.—VASARI.

Seventeenth Century.

A house had better be too little for a day, than too great for a year. And it's easier borrowing of thy neighbour a brace of chambers for a night, than a bag of money for a twelvemonth.... Let not thy front look asquint on a stranger, but accost him right at his entrance. Uniformity also much pleaseth the eye; and 'tis observed that free-stone, like a fair complexion, soonest waxeth old, whilst brick keeps her beauty longest.... To conclude, in building rather believe any man than an artificer in his own art for matter of charges, not that they cannot, but will not, be faithful. Should they tell thee all the cost at the first, it would blast a young builder in the budding, and therefore they sooth thee up till it hath cost thee something to confute them. The spirit of building first possessed people after the Flood, which then caused a confusion of languages, and since of the estate of many a man.—THOMAS FULLER.

Old houses mended
Cost little less than new before they're ended.
COLLEY CIBBER.

Eighteenth Century.

A Gothic cathedral strikes me like the enthusiasm of poetry; St. Paul's, like the good sense of prose.—HORACE WALPOLE.

The more extensive your acquaintance is with the works of those who have excelled, the more extensive will be your powers of invention, and, what may appear still more like a paradox, the more original will be your conceptions.—SIR JOSHUA REYNOLDS.

As when a lofty pile is raised,
We never hear the workmen praised
Who bring the lime and place the stones,
But all admire Inigo Jones.—SWIFT.

The most difficult thing in all works of art is to make that which has been most highly elaborated appear as if it had not been elaborated at all.—WINKELMAN.

Who builds a church to God, and not to fame,
Will never mark the marble with his name.
ALEXANDER POPE.

To be rich without profusion, simple without barrenness, is the great aim of an architect.—PERCIER.

Nineteenth Century.

He is a sorry architect who is a bad mathematician.—JOSEPH GWILT.

Houses were made before drawings, which, like tools and scaffolding, are only helps to building. The design is not the thing, but only an account, extremely superficial, of the thing proposed; "the work's the thing," and workmen are the real architects.—JOHN T. EMMETT.

My notion is, a practical builder that's got a bit o' taste makes the best architect for common things.—GEORGE ELIOT ("Adam Bede").

If you get simple beauty and nought else,
You get about the best thing God invents.
BROWNING.

There is a noble way of being ugly. There are daring and gaudy buildings that manage to be offensive without being contemptible.—R. L. STEVENSON.

Cleverness is serviceable for everything, sufficient for nothing.—AMIEL.

Show me the back windows of a man's dwelling and I will tell you his character. The rear of a house only is sincere.—BRET HARTE.

Never build after you are five-and-forty; have five years' income in hand before you lay a brick; and always calculate the expense at double the estimate.—KETT.

* * * *

Here the page is filled, and more remains. Another sip, next week, is needed to complete the series.

UBIQUE.

THE ARCHITECT AND STATE SERVICE.

THAT the great war came upon us as a bolt from the blue, everybody who is not a German is very well aware. It found us totally unprepared, except for the Fleet, which was "ready, aye ready." Our army was microscopic, and had to be magnified some twenty-fold or more in double-quick time. Whereas our enemy had perfected his machine, and had only to set it in motion by touching a switch, ours had to be devised. Taking a fair view of all the circumstances, it must be admitted that our executives have wrought marvels. They are not therefore immune from criticism. Indeed, with criticism and with advice they have been inundated, not to say overwhelmed. There was a period when they could not afford to listen to the babel of shouting into their ears. They had to act promptly. Delay for deliberation would have been disastrous, and even criminal. To embarrass them in such an emergency would have been wicked; and it is no wonder if they momentarily waived away all tenders of advice or assistance.

In such circumstances many regrettable things happen—and are to be condoned. But the initial mistakes need not be repeated—especially not the mistakes of the excited and impatient critics who were free and loud in their blame of all and sundry who, in the sudden stir and stress, behaved with more precipitancy than wisdom. Why, it was asked, did not the Government do this, that, and the other? And why did not this, that, and the other organisation insist on having its excellent advice accepted? These wild questionings need no answer. Quite obviously the Government did the best it could in circumstances that made blundering haste less blameworthy than perplexed hesitancy.

There was the matter of the timber contracts. Why did not the Government make a better bargain? Well, it got the timber, and that was the main point. Then the huts. Some of them might have been better built at less cost; but this was no time for competitive tendering, or for the leisurely higgling of the market. It is a stock subject of common complaint that, in normal times, the Government drives very hard bargains with contractors. If this be true, the reason is obvious: it is because the Government can nearly always afford to wait, and the contractor cannot. In war time the positions are reversed; and a Government Department in a hurry gives hostages to fortune.

After two years of war, the Government has become accustomed to the new atmosphere, and can see through it more steadily, and is able to acquire a better appreciation of values. It is sifting the advice which has been lavished upon it, and is showing a disposition to hold fast that which is good. It is refining upon its first hasty mobilisation, and is taking more pains to ascertain in some detail what resources are at its command, and who, among its myriad counsellors, can be trusted. The round peg observed in a square hole is transferred to its proper environment. The architect whose special talents are sterile in the trenches is set to work in which they are turned to excellent account. Some of our soldier-architects have done work that has won them promotion in rank and mention in dispatches; and the adroitness with which the architects have adapted themselves to new and strange conditions is a thorough vindication of Mr. Newton's claim that architectural training and experience tend strongly to develop versatility and alert resourcefulness. Of this the truth has been established by the alacrity with which, at the outbreak of the war, so many thousands of them threw down the T-square to shoulder a rifle, the speed with which they qualified for commissions, the praises they have earned for keenness and proficiency in all departments. Their practical outlook was to be inferred from their eager preference for the Royal Engineers, which large numbers of them joined in the hope of giving their utmost service—of turning to practical account their technical training, their knowledge of mechanical forces and physical science, their constructive art and skill.

As with the men, so with their institutions. It cannot be forgotten with what energy and enthusiasm the Architectural Association, for example, threw itself into the recruiting movement, and how quickly it became one of the best organised and one of the most effective agencies in the country. Its success was not surprising to those who were already well aware that organising skill is of the essence of architectural training, and is evidently abundant, for example, at the Institute, which has organised the profession *de fond en comble*—has mobilised its forces by the affiliation of societies all over the Empire; has created and, through its Board of Architectural Education, is constantly developing, an excellent system of professional education; has established a fine library; has its science, town-planning, conditions of contract committees, as well as those which relate to the art and literature of architecture. Indeed, it has always exerted a powerful influence on matters that are almost purely practical—it has effected the standardisation of brick sizes, has exhaustively investigated the whole subject of reinforced concrete construction, and has from time to time published valuable reports upon these and many other practical matters. Its International Congress on Town Planning gave this movement its first great impetus in this country. Lastly, the Institute has always been the foremost and most influential active agency in safeguarding the public interests in such matters as the proposed St. Paul's Bridge, and in the more recent affair of the Charing Cross Bridge.

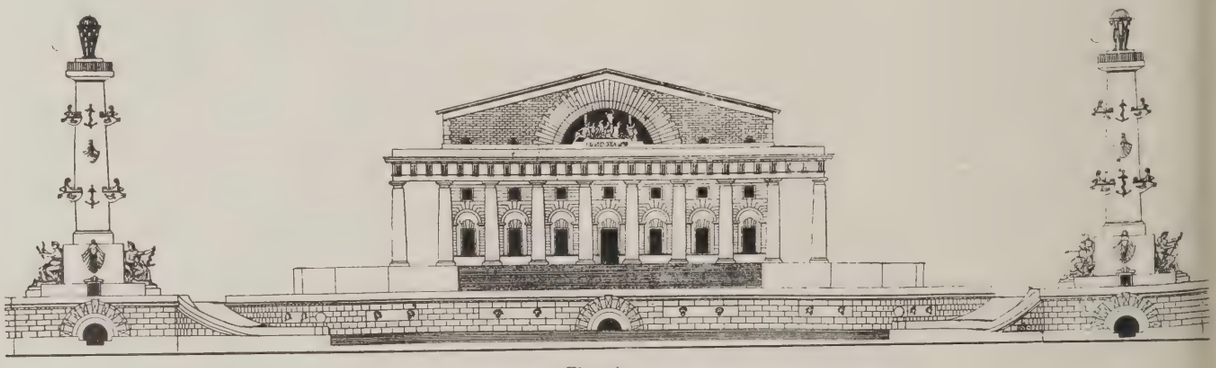
Indisputably, then, on its record the Royal Institute is an eminently practical body, of proved competency to render the State invaluable service. That the Government has been rather slow to grasp this fact is not the fault of the Institute, which, from the outbreak of the war, has been patriotically willing and eager to place its whole machinery at the disposal of the nation. But there are at length signs that the Government are realising the solidly substantial value of the aid that organised architects are prepared to render; and this dawning perception is no doubt due to the persevering efforts of the Institute to set the matter in its true light.

Although the results of these efforts have not been hitherto strikingly conspicuous, it does not necessarily follow that they have lacked frequency and force, nor that they have been wholly unavailing. Precisely what steps have been taken to convince the Government that the Institute is able and willing to render important services to the State, and precisely how responsive (or otherwise) the Government has been to these overtures, may not be revealed in detail. Negotiations of this sort are naturally more or less delicate, and are no more to be made immediately public than are the adventures of the persistent wooer; but we may nevertheless accept with perfect confidence the assurance that the Institute has lost no opportunity of pressing its claim as a body supremely anxious and fully competent to serve our country in ways and by means that, we gather, have been set forth with almost the comprehensive detail of an architectural specification. It is not the custom of the Institute to press its attentions on a reluctant object; we all know and admire its "grand manner" and its suave methods of diplomacy. But this is no ordinary occasion: and we can well believe that the Institute has so far forsaken one of its most cherished traditions as to have been aggressively importunate in offering its services to the country.

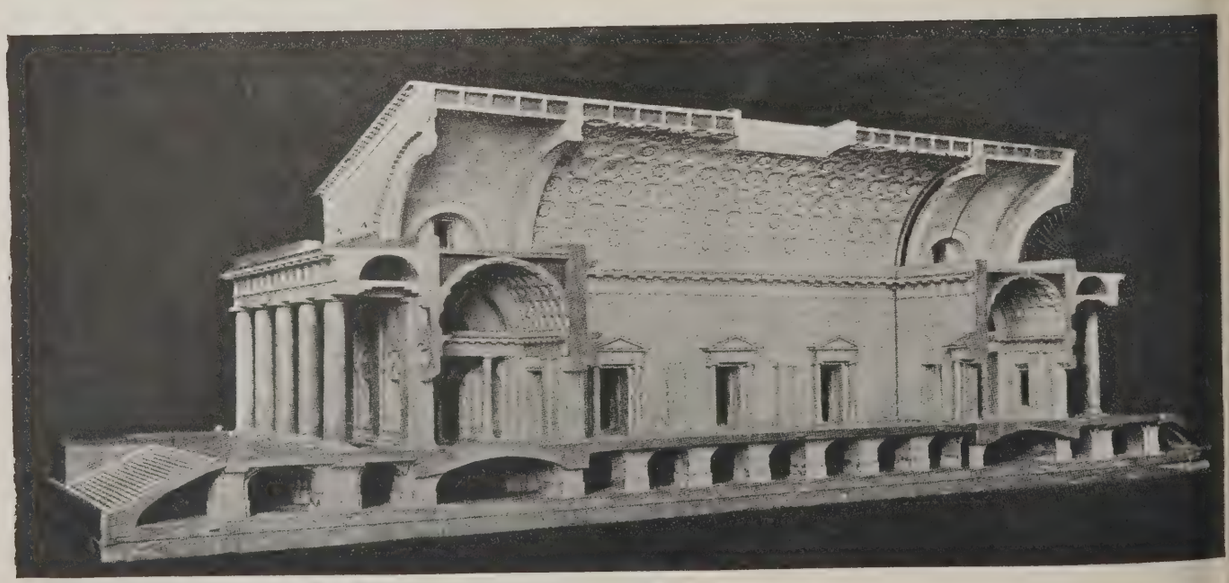
THE PLATES.

The Bourse, Petrograd.

THIS magnificent work, by the Frenchman Thomas de Thomon, is the finest of all the many fine buildings which were erected in Petrograd when the classical phase was at its zenith—during the latter part of the eighteenth century and the early years of the nineteenth. It was constructed on the foundations of the previous incomplete building designed by Quarenghi, whose design was thrown over on account of its lack of monumental dignity, and de Thomon's selected in place of it by the Emperor Alexander in 1804. The building is rectangular, with a strong Doric colonnade standing on a granite podium, the whole structure being placed on a vast semicircular terrace, with two flanking rostral columns, and double flights of steps leading down to the waters of the Neva. Its situation is the best in Petrograd, the natural prominence of the site, shaped by art to form a vast projecting bastion, giving the building, with its attendant magazines, added dignity and perfect scale. It is curious to note how de Thomon followed the precedent of Le Doux, Vaudoyer, Dufourny, and other Frenchmen, by renouncing the usual *motifs* of the Renaissance. He claimed to have attained to the purity of the Greek style; that he approached its spirit is undeniable, but the greatest feature of the Bourse is its modern conception. De Thomon was an architect who realised that architecture, to be successful, demands something more than a correct disposition of the usual attributes of columns, entablatures, doors, and mouldings, the indiscriminate use of which deceives so many designers. He recognised the subtle nature of the problem at the outset, and, weighing all the possibilities, caught the spirit of the advantageous site, imbuing his design with that maritime character which is its great charm. From the plan to the exquisite detail of the rostral columns, every part displays that pure Classic simplicity which is only found in great work. This Bourse, built at a period contemporary with the Madeleine in Paris, must be regarded as the chief work of the Empire style in Europe. It is reminiscent of the mighty Doric temple of Poseidon, at Pæstum in Sicily; but it does not plagiarise a single feature of the Greek colonial prototype. The unique composition of the structure, its spirited theme and refined strength, entitle it to a place in the history of the nineteenth-century architecture comparable with St. George's Hall at Liverpool and the San Carlo Theatre at Naples. The building was practically completed in 1811, and it was formally opened by the Emperor in 1816. Owing to the difficulty of obtaining good building stone in the vicinity of Petrograd, the architect was compelled to employ brick and stucco for the major portions of the Bourse. He profited by the rich decorative effect given by the usual treatment of stucco in Petrograd, and made a contrast in colour between the white of the columns, the architraves, cornices, keystones, and triglyphs, and the delicate grey tint of



Elevation.



Sectional Model.

THE BOURSE, PETROGRAD. THOMAS DE THOMON, ARCHITECT.



MONUMENTAL ARCHITECTURE (SERIES II.). II.—TH



PETROGRAD. THOMAS DE THOMON ARCHITECT.

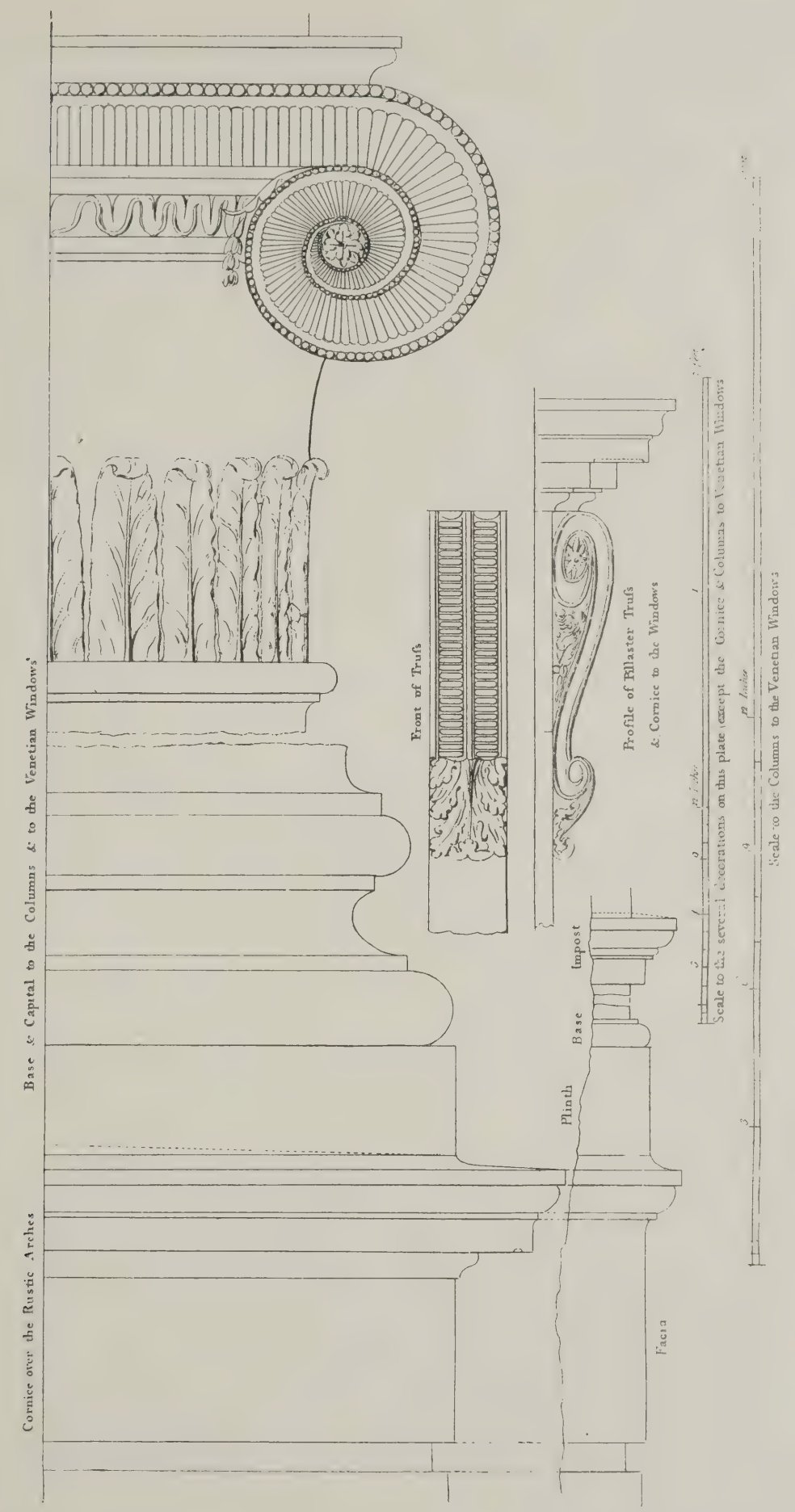


DOORS AND DOORWAYS. XIII.—ENTRANCE DOORWAY, GARGRAVE HOUSE. YORKSHIRE.

JAMES B. DUNN, F.R.I.B.A., ARCHITECT.



DETAILS OF CRAFTSMANSHIP (SERIES II.). XVII.—CHANDELIER IN THE ST. JAMES'S CLUB, PICCADILLY, LONDON.



MEASURED DETAILS. III.—CAPITAL AND BRACKET, ETC. SHIRE HALL, CHELMSFORD.

JOHN JOHNSON, ARCHITECT.



STUDENTS' DRAWINGS (SERIES II.). XXXIX.—DESIGN FOR A CHIMNEYPIECE IN A RECEPTION ROOM.

BY LIFFORD CLAYDON.

Supplement to "The Architects' and Builders' Journal," Wednesday, December 6, 1916.

he metopes, the general wall surface, and the pandrels of the arch in the pedimented attic. The esult is superb.

Entrance Doorway, Gargrave House.

This is part of the rebuilding of Gargrave House, hich has been carried out under the direction of Mr. ames B. Dunn, F.R.I.B.A., of Edinburgh. In eneral character the doorway follows the Wren iodel, and has all the robustness of that type of ork.

Chandelier in the St. James's Club.

The building which now forms the home of the St. ames's Club in the "dip" of Piccadilly, facing the reen Park, was formerly known as Coventry House, nd was built about 1761. It is a beautiful example f eighteenth-century design, both within and with-ut, and still preserves intact many of its original terior embellishments, among these being the handelier which we illustrate. This is in the lounge all. Glass chandeliers (fitted for electric light) re of late being re-used extensively, and it is there-ore of current interest to show a fine example like his.

Capital and Bracket, Chelmsford Town Hall.

The Shire Hall at Chelmsford was completed in 792, and these details of capital and bracket are ypical of the period, when the quality of elegance istinguished architectural design. An article on he building appeared in our issue for last week.

Chimneypiece in a Reception Room.

This is inspired especially by French examples. he design is eing combined to give a rich effect while at the ime time avoiding redundance.

LONDON STREET ARCHITECTURE.

ONDON street architecture, so far from being brought to a standstill by the war, a writer in the "Observer" contends, has been improved by veral notable additions. At University College in ower Street Professor Simpson has carried on in assic taste the work of Wilkins. To the same architect e owe the School of Oriental Studies, which is now mpleted, in Finsbury Circus. Moorgate Hall in the me neighbourhood, also erected during the war, is a e block of City offices in the classic manner.

Australia House, a worthy addition to London's w architecture, by Marshall Mackenzie and Son, in dwych and the Strand, is nearly finished. With the moval of the scaffolding the fine scale of the columns nds revealed. The offices of the Public Trustee in ngsway, from designs by the Office of Works, are so an addition since the war, and show a distinct vance on the work which has hitherto come from an icial department

Berkeley Street, which, with the Ritz and Piccadilly otels, the beautiful gardens of Lansdowne House d Devonshire House, and the adjoining square, has re of the atmosphere of Paris than any other part London, has been enriched by a new block of flats, Richardson and Gill, which possess distinct risian features, such as balconies to each floor and icent ornaments.

The Minister of Munitions suggested some time ago t it in order to provide work for builders as soon as ace is declared architects should get on with their ns now and have them all in readiness. There is great deal of work waiting to be done. In the City, orgate Street has to be built on a larger scale, and re is the gradual re-building of Lombard Street. the West End there is the rebuilding of Regent eet, including the Quadrant, and there are several vacant sites in Oxford Street, notably Laurier and Marner's old premises and the Princess's Theatre. There is also a prominent site in Coventry Street. The County Hall has to be completed, as well as parts of the Duchy of Cornwall improvement at Kennington.

CORRESPONDENCE.

The A.A. War Service Bureau: An Appeal from the President.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—May I ask you to allow me, through the medium of your columns, once more to give publicity to the work which is being carried on by the A.A. Active Service Committee, in supplying comforts and necessities, reading matter, etc., to members of the architectural profession and of the building trades who enlisted in the Army through the A.A. War Service Bureau.

From my own experience I know how very greatly the work of the Committee is appreciated at the front and how welcome are the parcels they send out. Since the Committee was first formed thousands of parcels have been despatched, apart from the numerous professional periodicals and bundles of other reading matter with which a large number of men are supplied weekly.

To carry on this work during the coming winter further funds are required, and my object in writing is to remind your readers of the existence of the Committee, and to ask them if they would send donations, whether in money or goods, to the Chairman, Mrs. Maurice Webb, at 37, Great Smith Street, Westminster. The supply of magazines is never up to the demand, and at the moment reading matter of all kinds is particularly required.

A. G. R. MACKENZIE.
President, Architectural Association,
37, Great Smith Street, Westminster.

Sir William Lever's Housing Problem Proposals.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—That any project relating to housing which is fathered by Sir William Lever is well worthy of serious consideration goes without saying.

Timid councillors of our municipalities mght at any rate make a start by offering any land suitable for the erection of workmen's cottages which they at present own on his conditions, viz., that the recipient undertakes to erect same as soon as war conditions allow the building trade to resume operations.

Corporations holding unused land are generally carrying heavy standing charges, and seem to overlook the fact that as soon as buildings are erected and occupied, they (the Corporation) become first takers of receipts in the shape of local rates, water rates, lighting charges, etc.

May I also suggest that the Local Government Board's ban on the erection of cottages built in blocks of four back-to-back ought to be removed. This is the cheapest type of cottage. Each having two sides exposed to sun and air (the present terrace type has not more), and if built, say, 20 ft. apart, give a certain amount of privacy to each that cannot be obtained in the only alternative—the tenement.

Any correspondent claiming to speak for builders who advocate the removal of the "Form Four" legislation should particularise. If they mean the Increment Duties, I agree; but the tax on undeveloped land surely means cheaper land and any influence tending to make it cheaper to buy is worthy of support.

BUILDER.

NEWS ITEMS.

Fryatt Memorial for Dovercourt.

A wing is to be added to the Cottage Hospital at Dovercourt as a memorial to the late Captain Fryatt, murdered by the Germans, and an influential committee has been formed to carry out the project. Mr. A. T. Holland, 42, Oakland Road, Dovercourt, is acting as secretary.

Busts of Famous Londoners.

The statuary of London has received a noteworthy addition in the reconstructed "Daily Chronicle" building in Fleet Street; and now that the scaffolding has been removed it is possible to get a glimpse of the busts which adorn the exterior of the building. Five of them show bold and lifelike likenesses of Hogarth, Caxton, Johnson, Goldsmith, and Wren.

R.I.B.A. Statutory Examinations.

An examination qualifying for candidature as District Surveyor in London was held by the Institute pursuant to Statute on October 18, 19, and 20. Three candidates attended, and the following passed: William Doddington, 181, Queen Victoria Street, E.C.; Harold Edward Watkinson, 79, Leslie Road, East Finchley, N. The successful candidates have been granted by the Council certificates of competency to act as District Surveyors in London.

A Belgian Artist at the Front.

The well-known Belgian artist, Mr. Marc-Henry Meunier has recently returned from the Belgian front with a large number of paintings and drawings, which are being exhibited this week at the Leicester Galleries, Leicester Square. M. Meunier, who is a nephew of the famous sculptor Constantin Meunier, made his visit to the firing line with the authority of the Belgian higher command, and H.M. the Queen of the Belgians has purchased two of his pictures.

Efflorescence and Waterproofing.

At the Lahore (India) Congress held this year a discussion took place regarding efflorescence on buildings and structures. We note from the report that Lala Wazir Chand Chopra said that he had found a waterproofed cement plaster very effective on the floor of the canal rest-house at Mast Chak, where the Ravi in flood flowed round the compound. The cost was stated to be only Rs.6 to 7 a hundred square feet, the British powder "Pudlo" being the waterproofing agent.

Metropolitan Water Board's New Building.

The Metropolitan Water Board discussed last week the discontinuance of the erection of the new offices in Rosebery Avenue as required by the Ministry of Munitions, and it was stated that the cost of the protective works might amount to £3,500. A question arose whether the contractors or the Board were liable for such cost, but the Board agreed to call on the contractors to do the work. If they fail to comply the Board will do the work at a cost of £1,000 at the contractor's expense.

Subjects for Stained-Glass War Memorials.

In response to a request, in the "Guardian," for suggestions for a subject for a stained-glass window for a church, in memory of a son fallen in the war, the following ideas have been elicited:

I should like to suggest as a subject for the memorial windows Isaiah vi. 6-8: "Then flew one of the seraphim into me, having a live coal in his hand, which he had taken with the tongs from off the Altar: And he laid it upon my mouth, and said, Lo, this hath touched thy lips; and thine iniquity is taken away, and thy sin purged. Also I heard the Voice of the Lord, saying, Whom shall I send, and who will go for us? Then said I, Here am I; send me." Another correspondent suggests figures of two soldiers—St. Alban and St. Martin? Or, if there be two tiers, the lower one might have General Gordon and Captain Allen Gardiner, R.N., the founder of the South American Missionary Society.

A third correspondent writes: May I say that I am placing one in memory of my son, and that the subjects are St. George, the patron Saint of England, and St. Louis, the soldier Saint of France, thus combining the two countries at this special time?

Town-Planning Conference in Manchester.

A conference of representatives of local authorities was held in Manchester last week, to consider the preparation of housing and town-planning schemes for use at the close of the war. The conference (which is promoted by the National Housing and Town-Planning Council) resumed the work placed in hand at the National Congress on "Home problems after the war," held in London in April last, and passed a resolution urging local authorities to ascertain the housing needs of their areas, and to secure control of suitable land.

West Hartlepool Co-operative Society's Building, Newcastle.

With reference to the West Hartlepool Co-operative Society's building at Newcastle-on-Tyne, which we illustrated in our issue of November 22, we are asked to state that the water tank of ten thousand gallons capacity, which has been constructed in the tower, under Mr. L. J. Ekins, was built with a waterproofed cement concrete and no internal rendering was used. A rich mixture of Pudloed cement concrete was made and a suitably graded non-porous and small aggregate was chosen. Under these conditions a rendering can safely be dispensed with, and the architect of the above building has again proved this fact. When the concrete is poor and not graded it would be extremely dangerous to omit a waterproofed cement rendering.

Projected New Factory for Cork.

Both the Corporation and the Harbour Board of Cork have decided to enter into agreements which promise, when perfected and put into operation, to effect a revolution in the industrial life of the city and the whole South of Ireland. Mr. R. Woodhead, of Southport, acting on behalf of undisclosed principals, had made an offer to purchase the Cork Park Racecourse portion of the Marina, and the roadway leading thereto, for the purposes of a factory proposed to be erected. Mr. Woodhead agreed that the buildings should cost at least £200,000, and that at least 2,000 adult males should be employed. The Corporation and Harbour Board have accepted the offer, and their decision has the support of the citizens at large, particularly the working-classes. It is estimated that £400,000 will be spent ultimately on the factory buildings and on dwellings for the workers, and that the plant will cost £600,000. Manifestly, the scheme in contemplation is one of vast magnitude An undertaking of such dimensions will economically and financially, be a immense advantage to the city. If, whe the works are started, the citizens an workers continue to support them a heartily as they now support the proposa of the undertakers Cork may in a sho time become one of the leading industria cities in the United Kingdom.

Hull Corporation After-the-War Schemes.

It was stated at a meeting of the Hu Corporation Health Committee last wee that the works under that department be undertaken after the war included th large housing scheme involving the d molition of New George Street, and suburban housing scheme. The Housin Sub-Committee give no estimates, but sta that the officials concerned are authoris to give any further particulars that may required by the Parliamentary Committe The Lord Mayor (Alderman Askew), M F. Booth, and Mr. Charles Raine were r commended as the Council's represent tives at the National Housing and Tow Planning Conference, to be held at Lee on December 14 and 15 next. Dr. Lill suggested that Mr. Digby Willoughb who had taken a great interest in t housing schemes of the Corporatio should also attend as a delegate, and th was unanimously agreed to.

New Zealand Stone.

H.M. Trade Commissioner in New Ze land has forwarded an extract from t local Press, from which it appears that the ocean front near Island Bay, New Ze land, a rich discovery of stone has be made. There are at least four reefs. T first reef, 30 ft. thick, is of black jasp and purple stone, with yellow, green, pir red, and blue markings. Next to this a 40-ft. reef of red, green, and white-banc jasper. Adjacent to this reef is a sm seam of flint and agate. Then comes 100-ft. reef of red and green finely mark jasperised stone, which has been mu admired by Wellington architects. T next reef, 150 ft. wide, which is of argill also a valuable building stone, is said to the only reef of argillite in the southe hemisphere. This stone, which is mu used in flagging railway stations, etc., account of its non-slipping qualities wh wet and for foundations and facings large buildings, was formerly impor from Austria.

OBITUARY.

Mr. Walter Hobson.

The death occurred last week at B lington of Mr. Walter Hobson, archit of Leeds, who was sixty years of a Articled in early life to the late Edward Birchall, he in due course t over a considerable share of Mr. Birch work. When, later, Mr. Birchall t a partner into his practice, Hobson started business on his o account, devoting himself principally commercial and domestic architecture. carried out some of the infirmary ex sions, and also designed the St. Ch Home at Far Headingley, and the Ca Jackson memorial wing at Cookridge H pital. In 1900 he was joined in part ship by Mr. C. C. Chadwick and Mr. Watson. This arrangement continued seven years. Mr. Hobson therea carried on the business alone.

CONCRETE AND STEEL SECTION

(MONTHLY.)

STEELWORK CONSTRUCTION IN A SHIPYARD BUILDING.

The accompanying illustrations show the elwork of a large shipyard building cently erected at Philadelphia, the ecial features being deep longitudinal isses with horizontal plate girders to sist the horizontal thrusts of a 5-ton wall ane, designed with particular reference economy. Trusses varying in span ngth from 40 to 80 ft., not only support ese wall crane loads but also carry the ain 10-ton travelling cranes, the second ior loads on the top chords, and the roof isses. The use of such unusual trusses is necessary to meet the requirements for rge unrestricted working spaces.

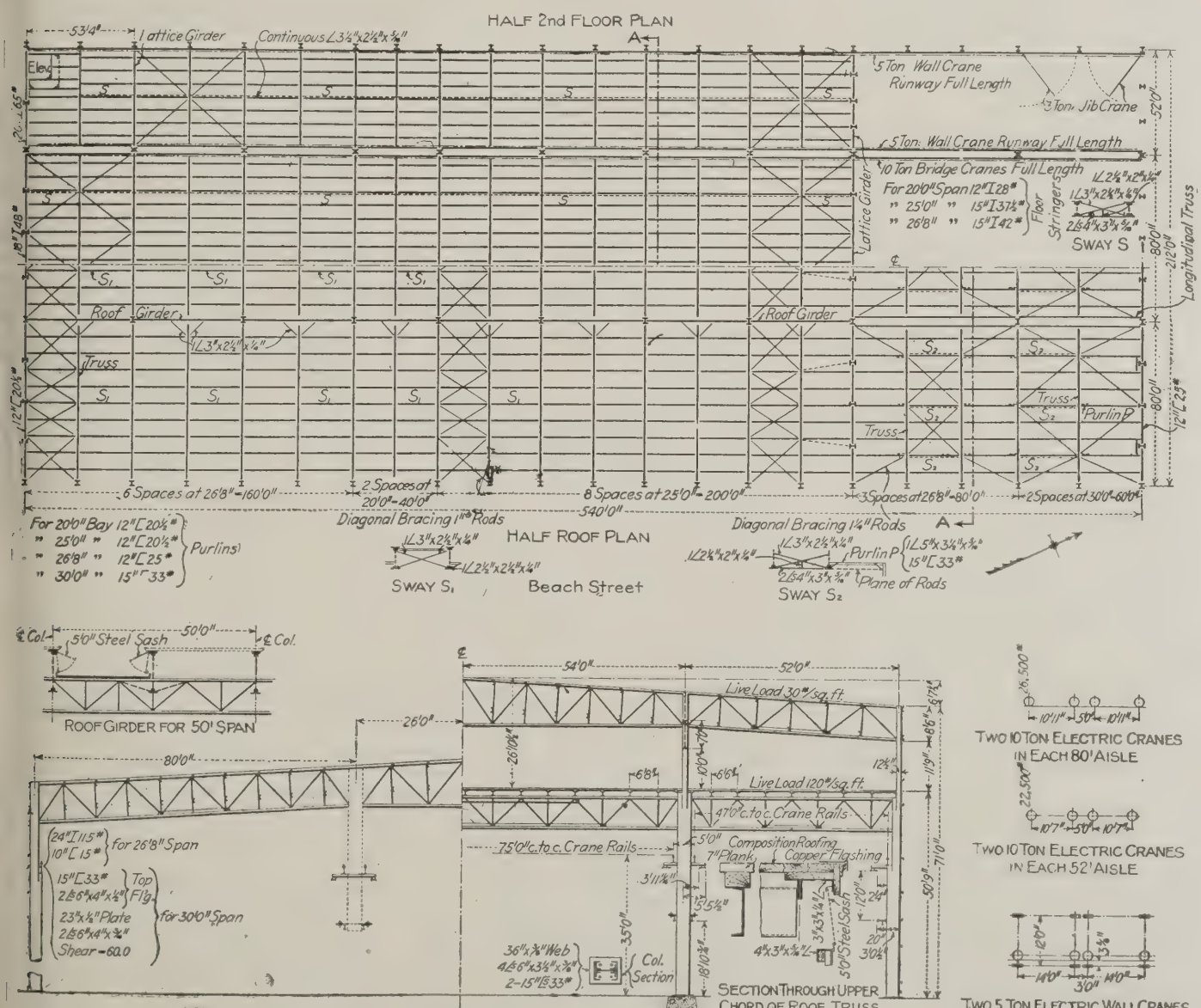
The building covers an area of 212 by o ft. Two bays at one end, occupying a tal length of 140 ft., contain the angle-nith department in the 60-ft. bay, and in e 80-ft. bay are two long furnaces for heating angles and one large plate furnace, all of the oil-burning type; while in front of the furnaces for working the miscellaneous materials is a cast-iron machined floor. The remainder of the building, 400 ft. long, has a concrete floor. On this floor are placed the miscellaneous punches, shears, rolls, planers, drills, countersinks, hydraulic benders, jogglers, etc., on which all the material is worked up for the hulls of the ships, ready for assembling.

On the first floor, in a space 212 ft. by 400 ft., is the mould loft. Special attention was given to daylight lighting, and in this large area the centre of the floor is as well lighted as along the sides. This is necessary to enable the workmen to lay out to full size the lines of the ships for making the necessary templates and moulds, after which they are used on the floor below in getting out the plates and shapes to the proper size.

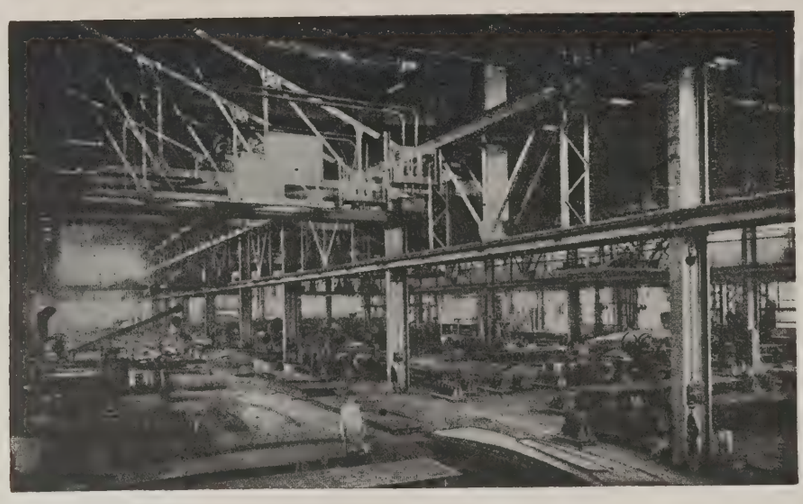
The total 540-ft. length of the building, 400 ft. of which is two storeys in height, is divided into twenty-one bays, varying from 20 ft. to 30 ft. for the exterior-column spacing and from 40 ft. to 80 ft. for the interior-column spacing. The building is unsymmetrical transversely, being divided into two 80-ft. aisles and one 52 ft. aisle, as indicated by the accompanying plan and sections showing the general lay-out of columns, trusses, crane runaways, and first-floor framing.

Each aisle is provided throughout its length with electric travelling cranes of 10-ton capacity. In addition, the entire building (except for the east wall in the low-roof portion) is furnished with 5-ton wall cranes, necessitating wall trusses and interior trusses with longitudinal girders in horizontal position, greatly complicating the design and the structural details. Small jib cranes are placed as shown, and are attached to the columns only at the level of the lower runway girder.

The timber flooring of the first floor



SECTIONS AND PLAN OF STEELWORK OF SHIPYARD BUILDING, PHILADELPHIA.



INTERIOR VIEW OF COMPLETED BUILDING.

rests upon I-beam stringers, supported by latticed girders. The usual type of triangular truss carries the plank roof on steel channel purlins. The high-low type of roof, with 5 ft. steel sash, was adopted to ensure good lighting.

The live loads specified for the building are noted on the main sections, with diagrams giving the crane-wheel loads and spacing. Unit stresses as prescribed by the Philadelphia building law governed the design.

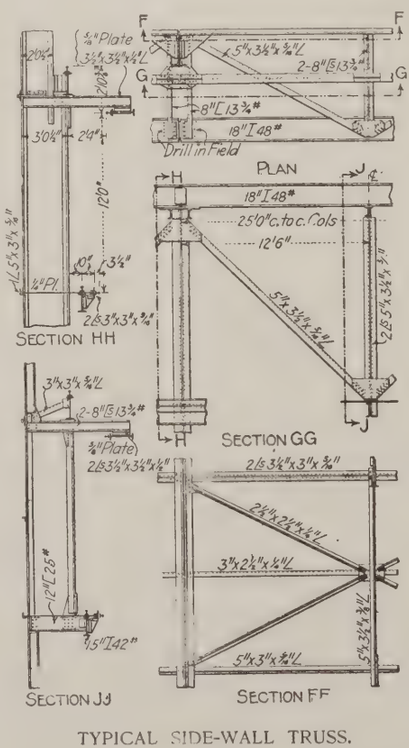
Typical details of one of the interior longitudinal trusses (50 ft. span) are shown by the illustration on the previous page. The top-chord angles support the floor, and were therefore designed to resist both bending and direct compression. The main vertical crane loads are carried by 18 in. I-beams in 50 ft. lengths spanning the 12 ft. 6 in. between panel points at mid-height of truss. The vertical loads of the wall cranes are supported by 15 in. I-beams similarly detailed, but connected to the truss at the panel points by transverse 12 in. channels.

The web-plates of the horizontal girders are riveted to the flanges of these runway beams, countersunk rivets being required in the lower girder where the plate is connected to the top flange underneath the crane rail. The upper horizontal loads of the wall crane are carried by horizontal 15 in. I-beams spanning about 10 ft. between transverse pairs of 8 in. channels riveted to the horizontal girder. The lower flanges of the longitudinal crane beams act as flanges for the upper horizontal girders. The lower horizontal loads are carried directly by the horizontal girders consisting of four angles and a web plate, with the 40 lb. rails connected to the flange angles, as shown in the details.

The other longitudinal trusses, varying in span length from 40 ft. up to 80 ft., and having panel lengths of 10 ft., 13 ft. 4 in., and 15 ft. respectively, are designed with details similar to the 50 ft. truss described. The interior trusses between the two 80 ft. aisles are symmetrical about the central longitudinal plane; but to attain maximum economy for these trusses, between the 80 ft. and 52 ft. aisles, the angles used on the 52 ft. side are decreased in thickness to carry the smaller loads from that side. In other words, the two sides of the trusses are assumed to act independently under full loading in the adjacent aisles. In this connection, the omission of lacing and battens in the diagonals should be noted.

The details of the 25 ft. side-wall trusses are also shown herewith, these trusses varying in length from 20 ft. up to 30 ft., and providing both vertical and horizontal beam action for resisting the main travelling crane and the wall crane loads. As the span lengths are small, and the first-floor loads do not have to be carried by these trusses (channel stringers between columns are used), they are relatively simple in design. The runway beam acts as the top chord of the truss, the plane of which coincides with this beam. Instead of a web plate for the top horizontal girder, diagonal angles are used below the main runway beam. The horizontal I-beam is supported at the centre of the bay by the two 8 in. channels indicated in the plan view. The lower horizontal loads of the wall crane are carried by a web plate and three angles for flanges.

The building was designed, fabricated, and erected by the American Bridge Co., as approved by Mr. H. W. Scott, engineer of plant for the William Cramp and Sons Ship and Engine Building Co., of Philadelphia.



TYPICAL SIDE-WALL TRUSS.

A PLEA FOR UP-TO-DATE BRIDGEWORK.

Owing to the war (writes a correspondent of the "Engineer") the cost of labour has risen prodigiously, and it is perhaps, doubtful whether it will ever fall to the pre-war level. To enable us to become a competitive nation as regards structural work, unnecessary labour must be carefully avoided and everything done to lower the shop cost, consistent, of course, with good workmanship.

It is obvious that if we are to compete in the markets of the world, we must be absolutely up-to-date in theory and practice. We must save labour where possible and put no useless metal into our work. To do this we must put all that we use in the right place, and eliminate as far as possible needless indirect and bending stresses. Consideration for the public safety also demands that, where possible, uncertainties should be kept out.

Taking plate girders. These are not easy to design properly, specially those carrying heavy loads. The rivet spacing in the main angles to take up the horizontal shear is very often merely guessed. I have frequently seen a pitch of 4 in. put in regardless of what the stress on the rivet may be. I have also seen girders with four or six wide flange plates connected to the web by two narrow angles, the flanges being balanced on the angles by means of the ancient cranked stiffeners without gussets.

Again, the bearings of heavy plate girders are very rarely reinforced, and as the bearing the whole of the reaction has to be transmitted to the web by a quite inadequate number of rivets in the vertical leg of the main angle.

Another fault is often found in the web joints, vertical covers only being used. In this way nearly all the resistance of the web plate to bending is lost at the joint unless the moment of resistance of the rivets in the cover is equal to the moment of resistance of the web, the allowable same tension stress being reduced by the stress already put into the rivets by the vertical shear at the joint. The true nature of the stresses in the web is a problem on which authorities differ, and no conclusive solution appears to have been arrived at.

Turning to braced girder bridges: It is no uncommon thing to see overhead bracing entirely dispensed with, even in spans of 250 ft. Surely this is absolutely necessary. The upper chords are struts and often curved. I cannot imagine any theory that will tell us the true stresses in these members if unsupported laterally.

Most of our leading contractors, some of our consulting engineers, and one or two railway companies work to up-to-date rules of design. It would be of great benefit if a thorough investigation were made into both theory and practice and some definite understanding arrived at. Standard specifications could then be drawn up for all to work to, the public safety would be ensured, and we would have some chance of again becoming a competitive nation in this particular manufacture. A large amount of the steelwork manufactured here and sent abroad is designed by the latest and most up-to-date methods by people who are always investigating and do not hesitate to alter their practice when they deem it advisable. The result is some magnificent structures. Why should we not have the same high standard throughout, officially settled, but always open to improvement as modern science casts light upon what is now obscure?

THE CONCRETE INSTITUTE: A SURVEY OF SOME NEW IDEALS.*

BY F. E. WENTWORTH-SHEILDS. M.Inst.C.E.

AM conscious of taking office at a time when the work of societies like ours is national and imperial importance. The uropean War, horrible and devastating its effects have been, has produced in is and other countries a wave of energy id enthusiasm for the better study of ience and the arts and their application industry. And this is not to be ondered at. There may be some who y: "Let us concentrate all our thoughts id energies on winning the war, and on thing else. Science and art are of little portance at the present time." But this far from being the case. It is true that ir first object must be to win the war, and at nothing must stand in the way of hieving it. But we now realise that this to a large extent, an engineer's war. id that science and the arts, industry and vention, play a most conspicuous part in

In every branch of our Army scientific en have been pressed into the service to elp with their knowledge and experience. he same remark applies to the new overnment Department which provides e munitions of war, and to the many ctories and organisations which are help- g it. The chapter of history describing hat the engineer, the man of science, and e captain of industry have done during e past two years will, I hope, some day written. It will certainly be of extra- dinary interest. And may I add that the ecial branch of work fostered by our own stitute will show some very bright hievements.

But there is a special reason why we ust regard the work of societies like our vn as particularly important at this time. hen the war is over, our next object will worthily to maintain all that we have ught for and to make impossible a petition of such a devastating struggle. his is a matter which will call for greater id wiser efforts, individual and national, an even the winning of the war will have ne. It must not be supposed that all we ve to do is to "crush the Germans" and at then our troubles will be over. It is ubtful, to say the least of it, whether y nation can be crushed, and this is rtainly not the object we have in view. e are giving our energies, our treasure, id our lives to break the military tyranny the Central Powers, and to establish the edom of nations. And when peace is clared we must hold on to the strong sition which every day we are gaining. o achieve this we must be ready to solve th energy and wisdom the many and rious problems which peace will doubtedly bring, and in order to be ady we must prepare for them now. hese problems will call for all the best ains that our country can give, and cieties like ours will need to put forth all eir strength. To-night I want to con- der with you one or two of these oblems, and how we, as members of the ncrete Institute, can play our part in eir solution.

After-War Problems.

The immensity of the problem involved resuming, after the war, our usual com- rcial life will be realised when we nsider that Great Britain alone has been verting the activities of over 10,000,000 n to unproductive and, worse still, to structive purposes. To restore these activities to normal paths in face of these difficulties will be a task requiring energy, foresight, and wisdom on the part of every member of the community.

And how, then, are these difficulties to be met? In a word, they must be met by economy—economy, not only in the restricted sense of curtailing expenditure and denying ourselves the comforts and luxuries of life, but also in the broader sense of ordering each man's work in the way that Nature's laws direct, so that there shall be the least possible waste and the greatest possible output of things that are really valuable to the nation, to its character, its health, and its happiness.

Economy.

Now, one of the most obvious dictates of economy is that we should curtail our luxuries and reduce waste of our necessaries. A good many of our luxuries have already gone, and it will be agreed that we are little the worse for their loss. This is especially true of the luxury of idleness. It is good to see that many who before the war enjoyed unearned incomes, and did nothing in return, have developed a sense of citizenship, and would now feel ashamed if he or she were not doing their utmost. There is no doubt that the nation which will recover most rapidly from the ruinous wastage of war will be the one which can produce the greatest output of marketable goods at the lowest cost. And how will Great Britain stand in this respect?

I do not want to be numbered among the croakers who decry everything that is British and who say that our education, our science, and our organisation are neglected, and that we are a decadent nation. The war itself has given the lie to such a statement. But the war has also taught us that the courageous individualism, and the keen competitive spirit, which has done much to develop our national strength has its limitations, and that in future it will be necessary to organise our manufactures and trades on more scientific and co-operative lines than ever we have done in the past.

Scientific Research.

For many years we have been dimly conscious that most of our industries could be more economically worked if we gave more attention to scientific and industrial research; but it seemed to need the European war to make us take vigorous action in the matter. It must be owned that previously our achievements in this direction compared unfavourably with those of some other nations. The National Physical Laboratory was established in 1900; but with a grant of only £4,000 per annum its usefulness was necessarily limited. It is true that our Government has contributed to the funds of the Engineering Standards Committee and of the Imperial College of Science, both of which have done a certain amount of research work. But when we consider that the American Government has been in the habit of subsidising their Bureau of Standards to the extent of nearly £100,000 per annum, our own national expenditure on such work seems to have been poor.

But in July, 1915, a special committee of the Privy Council was formed with a strong Advisory Council, with Sir William McCormick, LL.D., as chairman, and empowered to spend £25,000 in 1915-16 on scientific research.

This body has already done good work. It has helped researches which had been already undertaken by various scientific societies and private firms, and has encouraged new ones. A complete list of these is given in the Council's Report for 1915-16. One research of great interest to ourselves is the matter of deterioration of timber, metal, and concrete in sea water, which is being investigated by the Institution of Civil Engineers. The Concrete Institute, too, has not been idle, and with the help and co-operation of the professors of several British Universities and technical colleges it has drawn up a most useful programme of tests to ascertain the best way of using various concrete aggregates obtainable in large quantities in all parts of the country. Briefly, the scheme is as follows: Concretes will be made from a variety of aggregates mixed in the familiar proportions of 1 : 1½ : 3 and 1 : 2 : 4. Others will be made equally rich in cement, but with the proportions of sand to stones varied. These concretes will be tested for strength, permeability, and other properties. In this way it is hoped to discover not only the relative value of various aggregates, but also the most advantageous way of using them. It is evident that such a research will be of untold value to the designer, to the builder, and to the community at large.

Our Council have had several interviews with the Government Research Council on this matter, and are confident that we shall receive assistance from them in this good work. We shall also ask for assistance from those who are interested in this particular industry, and I am sure we shall not ask in vain.

There are, of course, very many other subjects for research which our Institute can usefully promote as soon as our funds and organisation will permit. Indeed, they are too many to mention here. But I will briefly allude to one or two which are of more than ordinary interest. One is a line of investigation which has been taken up by Professor Coker, of University College, London, and described by him early this year before the Royal Institution. He has taken advantage of the discovery of Sir David Brewster a hundred years ago that transparent materials when stressed become doubly refractive.

Professor Coker has devised a most ingenious optical apparatus by which a beam of light passed through a transparent model and also through an arrangement of Nicol's prisms becomes coloured, the colours varying with the intensity of stress applied to the model. In this way the distribution of stress on any section of the model can be accurately determined, and from the information thus obtained the model itself can be improved, so as to make the distribution of stress more even, and waste of material can be thus avoided. At the Royal Institution the lecturer applied his principle to transparent models of such things as an eye bar, a thick cylinder, a cog wheel in gear, and even a roof truss with riveted joints. It is evident that such an aid to the difficult problem of determining the exact state of stress in any part of a structure will be of untold value to the designer.

Recent Important Researches.

Again, one of the most important recent investigations on Portland cement has been made by Mr. Nathan C. Johnson, of New York. By means of the microscopic

* Substance of Presidential Address to the Concrete stitute.

examination of various concretes he has ascertained that, generally speaking, the chemical combination between water and cement in mortar or concrete is exceedingly imperfect, and that only about 25 per cent. of the clinker is properly hydrated. He suggests that an enormous economy could be effected if this could be improved, as probably the 75 per cent. of uncombined cement is useless except as a pore filler, which for this purpose might with advantage be replaced by a stronger and cheaper material. He further shows that, although this want of proper hydration is probably aggravated by insufficiency of water and of mixing, it is difficult in our present state of knowledge to avoid it. He throws out, however, some suggestions for possible improvements in this respect, and gives results of his own investigations. He points out that one impediment to proper hydration, as revealed by the microscope, is the tendency of the cement particles when mixed with water to cohere into groups and thus avoid proper contact with the water, owing to the surface tension of the liquid itself. By the addition of certain other liquids, such as alcohol or ether, to the water, the surface tension is reduced, and the cement particles are better dispersed in consequence. The practical advantage of such added liquids is shown in testing the crushing strength of concretes made with and without the addition of such liquids. For instance, with 5 per cent. amyl alcohol added to the mixing water the strength of the concrete was increased about 70 per cent. at two months. It is not yet possible to point to any such substance which can be added to concrete economically, and without fear of detrimental effect, but it is clear that the subject is of the first importance and calls for further research.

This is the more evident when we consider that the uncombined cement in a concrete is not only wasteful, but may even, under certain circumstances, be dangerous. This is clearly shown in a paper read by Mr. A. H. White before the American Society for Testing Materials. He describes investigations and experiments that seem to show that concrete, if alternately wetted and dried, is made to expand and contract, the net result being a gradually increasing expansion, and that if the process is repeated often enough disintegration may result. This disintegration is explained by him as follows. When water enters into the pores of dried concrete, it combines with cement clinker which has as yet been unaffected. The result is that the concrete is expanded and the pores filled up, whereupon the action ceases until the concrete is dried again. Then the concrete once more becomes porous, and on re-wetting the expanding action is repeated. It is rarely, of course, that deterioration from this cause becomes serious in practice, but instances of such deterioration are not unknown, especially in the case of marine works and of pavements exposed to weather. They can probably be guarded against by the use of some protective coating, but this, again, is a matter which requires investigation.

The researches to which I have here alluded may all be classed as industrial, in that they may be expected to introduce economies in some industry (the building industry in these cases) within a measurable period. It is important that researches which are more purely scientific and less utilitarian should not be neglected. Their educational value is very great, and, moreover, their application to industry is probably only a matter of time and invention. Witness the case I have just cited of Professor Coker's application of the phenomenon of double refraction. Such purely scientific researches cannot, perhaps, be undertaken by societies like our own. But they ought to be carried on in every important laboratory and encouraged by grant of public funds.

On the other hand, industrial researches —those, namely, which may be expected to produce quick and practical results— should be undertaken under the guidance of men who not only have scientific knowledge, but who are also acquainted with the actual working of the industry for whose benefit the research is needed. To carry this out effectively means co-operation between the laboratory and the works, or, say, between the professor and the manufacturer. It means even more than this—namely, co-operation between the various manufacturers who have hitherto been inclined to look upon each other as rivals, and to conceal from each other any knowledge and experience they may have gained. In this connection it is encouraging to read in the Annual Report of the Advisory Council on Research that "some manufacturers, at any rate, are beginning to realise that their most numerous and dangerous enemies are not their fellow-countrymen but powerful combinations of manufacturers in other countries, supported by every device of rate and tariff that their Governments can provide." And again: "In the numerous conferences we have had with representatives of different industries, we have been impressed with the spirit of co-operation which is growing up, and the willingness to accept our suggestions for the initiation of research for the benefit of the trade as a whole."

Education.

Although a great deal has been done in this country to improve the system of primary education for our working classes, it is evident that more remains to be done if we are to continue to hold our proper place among the nations in social and commercial life. The State now undertakes and insists upon the education of children up to the age of fourteen. Unfortunately, a large number then take up blind-alley occupations, which offer them high wages but no training, and leave them two or three years later almost incapable of learning anything which will be of real value to them in after life. Even when a boy is apprenticed to a trade at sixteen years of age he is not taught as he should be. It is true that in all our large towns evening classes are established at which he can learn many useful things, but most boys are too tired to derive benefit from lectures after having been at work for ten hours or more. It is generally felt that some better system is needed, under which a lad will continue his education, and not interrupt it just at the time he needs it most. The difficulties in introducing such a system are that it will involve increased expenditure to the parents or to the State, or both, and that it will produce a shortage of labour. To get over the latter difficulty, it has been suggested that we should adopt some such scheme as has been successfully carried out at the School of Pennsylvania, U.S.A. Under this arrangement a four years' course of training is given to a youth after he leaves his primary school at the age of fourteen. The first year is spent wholly in the trade or continuation school, and the boy specialises in those subjects which will best fit him to take up his trade in the shop. The next three years are given partly to school and partly to shop work. During the time that the schools are in session each boy attends every alternate week, the remainder of the weeks being spent in the shop. The special point of the scheme is that the boy are paired in each trade so that while A i in school B, his mate, is in the shop, an vice versa. The scheme is, in fact, a hal time apprenticeship without the difficultie which attend the work of a single bo working half-time, i.e., for so many hour a day or so many days a week. The wor of the two paired boys has been proved b experience to be at least equivalent, a regards value of output, to that of th single boy working full time.

Passing to the question of secondar education, every member of our Societ will be in cordial sympathy with the move ment to emphasise the importance o science in Public School and Universit education, and to abolish the absurd pr portion of time given to the study of Lati and Greek. We do not for a moment, course, wish to do away with the cultiva tion of humane letters, but that our tw senior Universities should practical compel their students to spend an enor mous part of their school hours in learnin subjects which the majority of them cann appreciate, and from which eventual they derive little or no benefit, is a nation scandal. It is curious to note that at th important Conference which was held o this subject last May, under the presiden of Lord Rayleigh, many masters and pr fessors of the older Universities bewail the neglect of science in their schools. B the influence of the dead hand seems par mount at Oxford and Cambridge, and pr bably it will be long before their regul tions and scholarships will be arranged such a way as to induce a larger numb of students to take up pure and appli science instead of classics. As a nati we are suffering severely from this negl of science in the past. Some of our able men, who ought to be helping the count as engineers and leaders of commerce, a wasting their energies as lawyers a members of Parliament. Worse than th even in this capacity they are quite unab to appreciate the dire necessity for t better cultivation of science, because th know nothing of it themselves. The R port of the Research Council points o that one of the great difficulties of carr ing out research work is the scarcity qualified observers. "The annual numb of students," it tells us, "graduating w first and second-class honours in scien and technology, including mathematics, the Universities of England and Wa before the war was only about 530, and these but a small proportion will have re ceived serious training in research." H is it possible that our Government w take active steps to remedy this state things so long as their members and e ployees are recruited from a class wh knows little or nothing of science? Fo tunately, the newer Universities are mo alive to the importance of science and l hampered by the tradition which has ma it the Cinderella of school subjects. Ev here, however, there is room for furth usefulness. If science is to be really a seriously cultivated in this country, should be taught at our Universities every member of our leading professio to our Civil servants, and also to those w are to take a leading part in comme and industry of all kinds. But the influ ence of our Universities should not ce at this point; they should be in const touch with the life and work of the m they have trained. It is perhaps unfo tunate that the professors of our Britis Universities are in many cases schol masters and nothing more. In oth countries it is not considered desirable t students should be taught by a man w does nothing but give lectures. The p

sor is encouraged to keep in touch with world of commerce in various ways. is permitted, or in some cases obliged, ict as consultant on practical work. At University in America, commercial ns are invited to bring special research blems to be investigated by the College ff, who are bound to secrecy, and, on other hand, participate in any success ich the investigation may produce. h intimacy between school and busi- s is sure to be of the greatest benefit to h.

Economic Independence.

he war has strongly impressed another upon us, namely, that it is consistent h true economy that we should make of our own national and imperial re- rces, rather than be entirely dependent n other nations for the materials and nufactures which we use day by day. "When war broke out," says the report he Research Council, "our supply of s and glass was practically cut off. We e dependent upon Germany for gnetos, for countless drugs, and phar- ceutical preparations, even for the gsten used by our great steel makers, for the zinc smelted from the ores ch our Empire produced." I am glad dd that vigorous measures were taken, h liberal assistance from the Govern- nt, to remedy this state of things. But such a thing could happen has given l for thought. Our easy-going theory he past suggested that we should buy whatever happened to be the cheapest ket, and pay for the goods with some- g that we could produce more cheaply . The drawbacks of this practice are fairly obvious, and, moreover, we are inning to discover that we can produce ny things quite as cheaply as other ons, if we will only take the same ible.

Concrete v. Timber.

very striking instance of this fact is stantly being brought to the notice of members of this Institute. In 1913 value of timber and wood goods im- ed from our Colonies and from foreign ntries (mostly from the latter) was over ,000,000. A very large proportion of timber was used in building construc- of all kinds, and yet we know that a t deal of it could be replaced by steel concrete manufactured at home, and the resulting structures would be per and more permanent. The price timber, which is now three times as t as it was in 1913, is forcing this ect upon our attention, and it is safe y that when the war is over and prices down to more normal figures, concrete, n and reinforced, will largely displace oreign rival, and that every architect, neer, and builder will be expected to ell acquainted with its use.

this connection it may be noticed an important item in the cost of re- rced concrete work is the provision of formwork, which is usually made of ber. Indeed, this type of construction been adversely criticised on the ground it is necessary to erect a timber build- before the more permanent structure be built up, and that the timber so is of little or no value afterwards, is practically wasted. There is no t that designers could avoid a great of this waste by planning their build- in such a way that the formwork can sed again and again. We have heard od deal lately about the standard ship, it has been suggested that ship-build- could be enormously cheapened by con- ting vessels to one or two standard gns. Why should not we have in the same way a standard factory or warehouse in which the spans and scantlings of the beams should conform to a patters? Such a design would admit of light steel form-work being economically used, and would mean a saving of labour and material, both to the designer and builder. It only requires closer co-operation between all connected with the industry to bring it about, and I think the Concrete Institute would do a good work if it were to lay down such a standard.

Increase of Output.

One of the great difficulties which we have had to encounter in our endeavour to obtain economical work has been the restriction placed by the workmen themselves through their trade unions on the amount of their output. To Mr. Lloyd George belongs the credit of having induced them to some extent to forego these restrictions, although they are by no means abolished. Unfortunately, the Government has promised that after the war is over all such restrictions shall be re-established. In the name of common sense let us hope they will not. The attitude of working men in this matter has been foolish and suicidal in the extreme. The result of the policy is clearly seen by comparing our census of production of 1907 with the American census of 1909. In almost every trade the American workman produces two to three times as much as the Englishman. No one would suggest that the American is cleverer or stronger than our own artisan. It is simply that the point of view of the American workman is, or at all events has been, entirely different from that of the British. Our men seem to labour under the mistaken notion that in every workshop or group of shops there is only a limited amount to do, and that if any one man voluntarily increases his day's work he is depriving some other man of employment. This, of course, is an entire fallacy. Indeed, it may be said that the opposite is the case, and that the industry which can produce the largest output at a given expenditure will be the one which will be able to employ the greatest number of men. On the other hand many intelligent working men will reply that they are quite aware of this, but that if they use their best efforts to increase production, the employers, by refusing to raise wages and by cutting down piece-work prices, prevent the workman from getting his fair share of the added wealth. Unfortunately, there is some truth in this criticism. The question was dealt with by Mr. Gerald Stoney, F.R.S., in his address as president of the Engineering Section of the British Association at its meeting this summer. He pointed out that at the present the most highly skilled men are paid by time, and thus earn considerably less than others of more mediocre attainments who earn by the piece. This is an arrangement which seems to be neither fair to the men themselves nor advantageous to the works as a whole. Again, coming to the question of piece-work prices, Mr. Stoney points out that it has been customary to cut down the price when a workman's earnings prove to be more than 50 per cent. in excess of what he would make if paid by time. This, too, is unfair and unwise, and the practice is to some extent responsible for the wilful limitation of output. He suggests that piece-work prices should be fixed by a special department, and that they should not be cut down except in extraordinary circumstances, and certainly not because the man happens to be earning good money. There is no doubt that too much stress has been laid in the past by employers on the desirability of keeping wages low, and we are beginning to realise that reasonably high wages are a positive advantage to a manufacturing concern, provided that they are accompanied by a large output.

Better Use of Machinery.

Another economy which needs to be developed in this country is the more extended use of machinery and of better machinery. In many of our workshops the machines are old-fashioned and insufficient, but their owners have hesitated to abolish them for various reasons. Conservatism no doubt has been partly responsible for this lack of enterprise, and perhaps a more important cause has been the difficulty of obtaining a proper output of machinery owing to the lamentable restrictions imposed by the various trade unions, who seem to be possessed with the groundless fear that the use of machinery will lead to unemployment. Be this as it may, our census of production of 1907 compared with that of America in 1909 shows how much more machinery is used in the newer country, their horse-power per man employed being in many cases double our own. It is notorious, too, that the Americans are more ready to replace old machinery by new than we are. The war has done much to change this and in many workshops new plant has been laid down in order to meet the imperative demand for increased output. The resulting economy in production has been brought home to manufacturers, and it is not likely that the lesson will be forgotten. Even in the building industries, in which we are more directly interested, the introduction of new machines has been very noticeable. On many works such appliances as concrete-mixers, block-makers, woodworking machinery, and all kinds of elaborate cranes and conveyers are used, where formerly the work would have been done by hand. The advantages both in increased output and in the quality of the work done have been very great, and further invention will undoubtedly extend these improvements.

Scientific Management.

Among the many ways in which science can help industry is the methodical arrangement and teaching of hand labour. For generations the apprentice has been taught his trade by being put to work along with the older hands, so that he may learn by observation, with perhaps some imperfect explanations. The limitations of this system have been shown in a most interesting way by Mr. Winslow Taylor in his book on "Scientific Management." He shows that very careful measurements and records are needed to find out how a man can do any piece of handwork to the best advantage—that is to say, in the shortest time and with the least fatigue. For instance, he describes how by scientific study of the movements involved he was able to train a man to load up pig-iron into railway trucks in such a way that he could easily increase his output nearly fourfold. He describes how the Bethlehem Steel Company used to employ a gang of men, under an excellent foreman, who loaded up 12½ tons per man per day. The movements of the men were studied, and one by one they were taught how to do it more advantageously. The pupil was made to rest at stated intervals, so much so, that less than half of the ten-hour day was occupied in actually carrying his load. The result was that each man was taught to load up 47 tons per day instead of the 12½ tons, and this without any sign of fatigue. The men's wages were raised 60 per cent., notwithstanding which the

unit cost of the operation was very considerably reduced.

Mr. Taylor also quotes the investigations of Mr. Frank B. Gilbreth, of the American Society of Mechanical Engineers, who studied and improved the art of bricklaying. He describes how he arranged the mortar-box and the pile of bricks in such a way that the bricklayer no longer had to step backwards and forwards or to stoop each time a brick was laid. The bricks were sorted and placed with their best edge up by a labourer. The mortar was tempered in such a way that the brick had no longer to be tapped, but could be pressed down to its proper position. Thus the movements made by the bricklayer were reduced from 18 to 5 per brick. With these improvements a well-trained workman could lay 350 bricks per hour, whereas the average speed under the old methods was 120 bricks per hour.

(To be concluded.)

KEADBY BRIDGE AND ITS LIFTING SPAN.*

BY JAMES BENJAMIN BALL, M.Inst.C.E.

The Great Central Railway Company have recently completed an important bridge over the River Trent at Keadby, about fourteen miles north of Gainsborough, of which the chief feature is a lifting span, built on the Scherzer principle, which claims the distinction of being the heaviest lifting bridge yet constructed in Europe. The new bridge replaces the old swing bridge at Keadby which has carried the railway for over sixty years, and in addition carries a public highway in satisfaction of a long-felt want.

Design and Structure.

The new structure consists of a combined railway and roadway bridge of five spans of the following dimensions: Two fixed river spans of 135 ft. each; a lifting span of 160 ft., giving a clear waterway of 150 ft.; a track span of 40 ft. on which the lifting span rolls, and an approach span of 70 ft. on the east bank of the river.

The bridge has a width of 53 ft. 6 in. between the centres of the outside girders, of which 29 ft. 3 in. is occupied. by the railway and 24 ft. 3 in. by the roadway; each span consisting of three main girders, the centre one dividing the roadway from the railway.

The river piers, of which there are four, are faced with granite and founded on rectangular steel caissons filled with concrete and sunk under compressed air to a depth of 50 ft. below low water. The largest of these caissons has an overall length of 94 ft., a width over cutting-edges of 20 ft. and a permanent height of 32 ft. Difficulty was encountered in the early stages of sinking through one of the caissons tilting forward and moving bodily towards the river, which threatened serious results, but steps were taken which proved effective in arresting any further movement, and the caisson was finally righted during sinking in the new position it had taken up.

The two fixed river spans are similar in design, the main girders being of the ordinary **N** type, 17 ft. in depth, divided into ten panels and counterbraced in the two centre bays. The cross girders are suspended from the vertical posts below the bottom booms and spaced 13 ft. 6 in. apart; between them ordinary roadway and railway stringers carry the deck plating. The top booms are connected by portal bracings at each vertical post, intersected by diagonal wind-bracing, and provision for longtitudinal expansion is made at the junction of the spans by means of cast-steel bearings mounted on groups of rollers. The total weight of steelwork in each of these spans is 540 tons.

The three main girders of the track span form a path on which the lifting span rolls, and together have to sustain the weight of the lifting span, which is nearly 3,000 tons. These girders, which are of very heavy construction, have an effective length of 40 ft. and a depth of 10 ft., and carry on their upper flanges cast-steel plates, 3½ in. thick, on which the teeth are formed, engaging with corresponding slots in the segmental girders of the lifting span.

Considerable attention was given in the design of the bridge to the question of the contact pressures obtaining between the segmental girders and the track plates upon which they roll, and for the purpose of determining the probable arc of contact careful experiments were made, particulars of which are recorded in the paper.

The Lifting Span.

The lifting span consists of three main trusses spaced at the same distances from one another as the main girders in the fixed spans, and tapering from a depth of 36 ft. at the rear end to 18 ft. at the fore end. Cross girders, spaced 19 ft. 8½ in. apart, with longitudinal stringers between them, carry the deck plating of the road and railway respectively, whilst the upper booms of the trusses are connected together by substantial overhead portal bracing on each of the vertical posts, which, together with the wind-bracing above and the floor members below, tie the trusses together, thus securing rigidity in the span as a whole.

The lifting span is counterweighted at the rear end in order to secure balance at all angles of lift, the counterweight consisting of a rectangular steel shell extending across the full width of the bridge, and heavily braced internally by lattice frames and strengthening girders. Its internal capacity is 24,780 cubic ft., and it contains 1,800 tons of concrete.

Between the rear ends of the trusses and the under side of the counterweight compound plate-web segmental girders having a radius of 28 ft. are provided. These girders have a central depth of 10 ft., and on their bottom flanges are bolted segmental plates of forged steel 3½ in. thick, provided with slots to engage with the teeth of the track plates on which they roll.

On either side of the lifting span heavy frames are built up alongside the track girders and anchored down to the supporting piers of the bridge. These frames at their upper extremity carry horizontal girders to which are bolted the main operating racks. Between these frames sufficient clearance allows the span to move freely as the bridge is raised or lowered.

The position of the racks coincides with the centre of the rolling circle of which the segmental girders form part, and the rotation of the pinions attached to the gudgeon pins of the moving leaf as they travel horizontally along the racks rolls the leaf backwards or forwards, so opening or closing the bridge. A horizontal platform at the level of the fixed racks is constructed on the leaf itself, and on this platform the lifting machinery is accommodated. The total weight of steelwork in the lifting span is 987 tons, exclusive of the machinery and gearing and the total weight of the moving span, together with its counterweight, is approximately 2,920 tons.

* Abstract of a paper read before the Institution of Civil Engineers.

REBUILDING DUBLIN: DEPUTATION TO THE PREMIER.

A deputation from the Dublin Fire and Property Losses Association was received by the Prime Minister in his private room at the House of Commons on November 22. The Prime Minister was accompanied by Mr. Duke, Chief Secretary for Ireland.

The deputation was introduced by Mr. John Redmond, M.P., and the case for the Association was stated by Sir Thomas Robinson, Dr. Sherlock, and Mr. Charles Eason. The speakers, while recognising that smaller losses had been dealt with in a manner generally satisfactory, complained of the delay in announcing the findings of the Goulding Committee and of the attitude of the Treasury in the matter. They emphasised the seriousness of the losses which have resulted, and appealed for information at the earliest moment.

The Prime Minister, in his reply, recognised the urgency of the case and undertook to communicate with the Treasury on the subject and to expedite a settlement by every means in his power.

It was expected that the Dublin Rebuilding Bill would be proceeded with early this week in its agreed form. The consideration of the measure will be resumed at the Committee stage, and in the interval Mr. Duke will be occupied in fixing up the amendments agreed upon with the departments concerned with them on this side. It is recognised that perhaps there may be some difficulty in this task.

BUILDING LICENCES FOR CANTEENS.

We understand that arrangements have been made with the Ministry of Munitions whereby controlled establishments' canteens—the plans of which have been approved by the Canteens Committee of the Central Control Board (Liquor Traffic)—will be granted a building licence, provided that no steel is used in their construction. The owners of the controlled establishments will be free to employ their own architects, and it has also been arranged that, should he be asked to do so, the President of the Royal Institute of British Architects will suggest the names of architects in the different districts where it is proposed to build canteens.

R.I.B.A. GENERAL MEETINGS SESSION 1916-17.

The following list of forthcoming general meetings of the R.I.B.A. is extracted from the supplement to the Kalendar:

December 18.—Business: Election of members; nomination of candidates for membership.

January 8.—Business: Election of members.

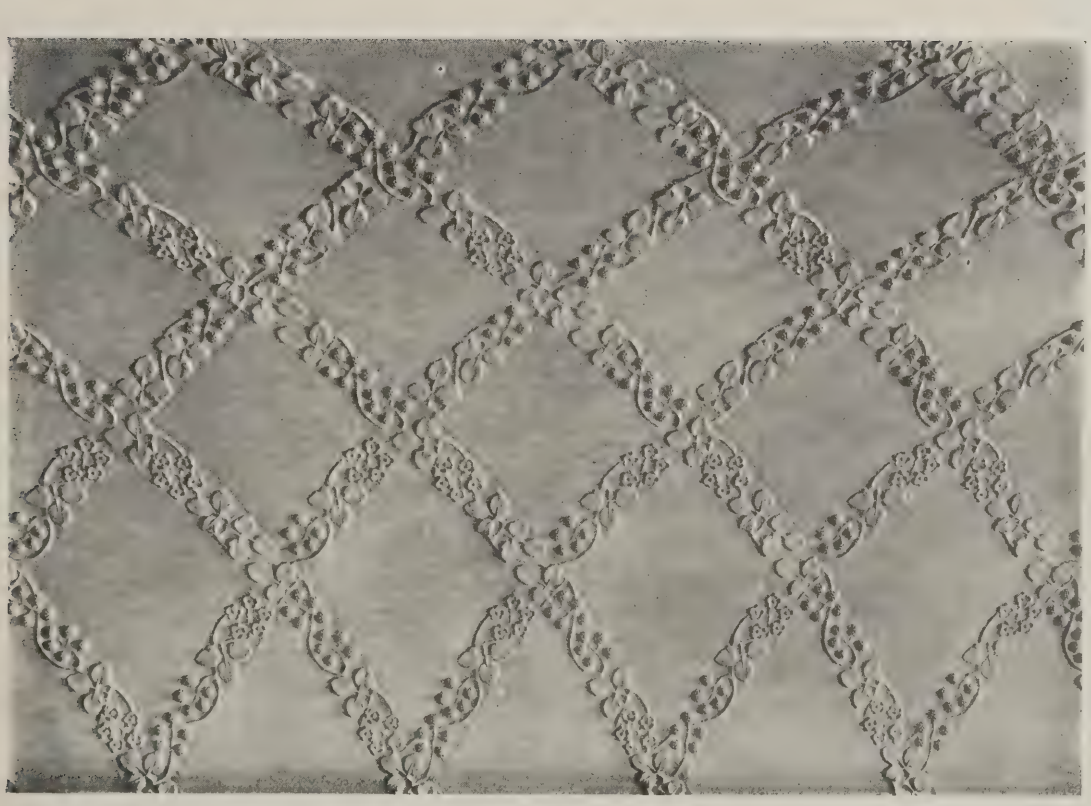
February 5.—Ordinary: Announcement of the Council's nomination for the Royal Gold Medal; nomination of candidates for membership.

March 5.—Special and business: Election of Royal Gold Medallist; election of members.

May 7.—Annual general meeting: Presentation of annual report; nomination of candidates for membership.

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PLASTERWORK (BY GEORGE P. BANKART) ON HALL CEILING IN HOUSE AT GLASGOW.

THE LATE WILLIAM LEIPER, ARCHITECT.

THE ARCHITECTS' & BUILDERS' JOURNAL.

DECEMBER 13, 1916. *TOTHILL STREET, WESTMINSTER.* VOLUME 44. No. 1145.

EDITORIAL.

WITH the purely political aspects of the change of Government we have nothing to do. Nor would it be prudent, at this early stage, to speculate at all freely upon the probable consequences to the interests with which we are legitimately concerned. It is more to the purpose to urge that the readjustment offers occasions of which the leaders of the building industry should not be backward to avail themselves. Labour, it would appear, is to have a largely increased share in the Government of the country, and it follows that professional men and employers must be on their guard against exaggeration—we will not say abuse—of this prerogative. It is notorious that for some years past the strong Parliamentary influence of Labour has operated detrimentally, and almost disastrously, to the interests of building trades employers, as, for example, in the unfair burdens cast upon them by the Workmen's Compensation Act. Now that Labour is promised still larger scope for its political energies, mere prudence would suggest the prompt adoption of defensive measures. The formation of a Labour Ministry does not necessarily imply further oppression of the employers of labour, but it should nevertheless be closely watched with the object of counteracting any such tendency.

* * * *

If the new Government is really to exhibit the businesslike and practical character that is claimed for it, professional and business men, well equipped with knowledge and experience, must be more freely called into consultation. If this common-sense course had been adopted by the Government that, having passed out of office, cannot be harmed by criticism, it would have been found possible to use men and materials with much greater economy and to much more effectual purpose, without any necessity for such desperate measures as the entire prohibition of building; and many other serious mistakes—some of them amounting to pretty full-blown scandals—could have been avoided, not only without hindrance to the prosecution of the war, but with advantage to it. In counselling watchfulness over these matters, and judicious intervention when that seems necessary and is possible, we have not the slightest desire to forsake the attitude we have consistently maintained towards the Government. It is a patriotic duty to render it every possible encouragement and support in its arduous struggle against foes from without and within and, in particular, to abstain religiously from worrying it with merely sectional interests. But the housing of the people, for example, and the use of professional men with due regard to the manner in which they can serve their country to the most economical advantage, are matters of the highest national importance, because—in at least the second instance—they have a direct bearing upon the successful prosecution of the war. Whatever the constitution or complexion of the Government of the moment, it must have our most loyal and united support, even though all this swopping of horses while crossing a dangerous stream has not set the country any very striking example of stability and unity.

* * *

A case of considerable interest with respect to the apportionment of the expenses of "preparing, settling, and completing a lease" is reported in our legal columns (Trustees of Royal Oak Benefit Society v. Edwin James Sadgrove). Judgment was to the effect that, in granting a lease, the landlord must bear the cost of preparing the counterpart, including the plan accompanying the counterpart and that it is the custom for each party to pay his own surveyor. In effect, the lessee was called upon to pay £8 5s. as against the £17 2s. 6d. claimed. With respect to these points, no comment is necessary although the record is useful as bringing to light and confirming the precedents upon which the judgment was based. What, in our view, is of greater importance than these details is the illustration which the case affords of the need for simplification of procedure in real-estate transactions. It is a very mild instance of the cumbersomeness and expensiveness of such transactions, and of the discontents and litigation to which they so easily lend themselves. It appears that on a simple matter of leasing a house of £135 annual rental, the lessee was expected to spend more than £17. No matter upon which party such expenses fall (and in this particular case they were, as we have said, by no means abnormally high) they are inconvenient and the knowledge that they are likely to be incurred must act as an adverse influence against freedom of exchange. For reform we must await the settlement of more weighty affairs; but in the meantime evidence of the need for it should be gathered and digested.

* * *

Two interesting points arise from the case of the Kleine Syndicate v. Killby and Gayford, in which the Official Referee delivered last week his reserved judgment. First there is the question of responsibility to the sub-contractor. In the defence it was contended that the building owner should have been sued. That appears to be a matter which turns upon the terms of the contract, and in this instance it was held that the contract was between the principal contractors and the sub-contractors, and that the former were responsible to the latter. It may be here recalled that the question of responsibility for payment to the sub-contractor was determined in the House of Lords in the case of Hampton v. Glamorgan County Council. The other point is also textual. Almost invariably there is a clause giving the architect power to vary a contract

Without this power his position would be intolerable. This case does not determine what are the limits (if any) to this very necessary power; and the arguments of counsel on both sides—on the one side the endeavour to show that the power is limited, and on the other the contention that it is plenary—had no effect on the judgment, which left the question undetermined, the main issue in the case being independent of it. All that the Official Referee felt himself called upon to decide was whether the principal contractors were liable to the sub-contractors. In the absence of express conditions to the contrary (which, quite obviously, no sub-contractor would be likely to accept), a sub-contractor does not lose his rights under a contract when variations are introduced, especially when those variations happen to eliminate him. These are the only legal points in the case.

* * *

Last week we commented upon one of the points raised in a letter from a correspondent who, while expressing his general agreement with Sir William Lever's proposals for solving the housing problem, put in a plea for back-to-back houses—advocacy which could not be allowed to pass unchallenged. A further point in our correspondent's letter that seems to call for remark is his reference to Form Four. He is right, we think, in attributing a curate's-egg-like character to an Act which takes away with the right hand what it gives with the left. To cheapen and free land is, in the words of the curate, "distinctly good"; but to couple with this bland beneficence such consequences as those exposed in the Lumsden case is to corrupt the egg which Mr. Lloyd George discovered before he gave up the ransacking of hen-roosts and took to shell-making, cabinet-making, and other industries of first-rate national importance. It is, however, a fair question whether it is wise to condemn holus-bolus an enactment that is good in parts, and our correspondent's plea for discriminating judgment is so alluring that we have taken leave to apply it to his interesting but not impeccable letter.

* * *

At the Glasgow Town-planning Conference, opinion was sharply divided on the question of tenement houses. Sir John Lindsay, Town Clerk of Glasgow, was at the centre of the storm. When he sat down, after saying that the Scottish tenement was to be preferred to the English self-contained house or lodging, several more or less excited speakers jumped up to protest. One, bearing the dignity of a Bailie, said he thought the meeting ought to thank the chairman for his "very interesting and misleading address."—a neat example of the two-edged compliment. Then an ex-Baillie, on saying "he would take it that if Sir John Lindsay preferred the tenement system he should live in a tenement," was reminded by the chairman that the subject before the meeting was town-planning. The speaker was impenitent. If he could help it, it should not go forth to the country that this housing conference would prefer tenements to cottages. A resolution to the effect that "it is desirable in the interests of the health and happiness of the community to stimulate the supply of self-contained dwellings with gardens, and to check the building of tenements," was countered by a resolution embodying the words "that no check be put on the building of tenements." Both resolutions were withdrawn.

* * * *

Mr. James Thomson, the Dundee City Engineer, declared that the passage objecting to tenements "was clearly drawn up in London," where the people do not know what a tenement is." As a matter of nomenclature, he is probably right. A Londoner would not know exactly what was meant by a Scots reference to "tenements." Nor would he be much the wiser for the explanation that a tenement corresponds in general, but not in particulars, to London block dwellings. He would not know, without ocular demonstration, the great difference there is between the two types. In appearance, in comfort, and in privacy, the Scottish tenement dwellings are usually much superior to London block dwellings of old standing, though those of more recent date could hold their own in the comparison. If it were possible to get rid of them all, in the North as well as in the South, there would be few regrets. They are simply an expedient for making the most of a site by vertical extension of the building. That they have other virtues cannot be denied. Building on a large scale imposes an obligation of good workmanship and sound materials that is less strictly exacted, and less adequately remunerated, in the building of cheap cottages. In any case, it is gratifying to find that, as revealed at the Glasgow Congress, there is growing up in Scotland a vigorous body of opinion in favour of cottages and villas; for blocks, whatever may be urged in their favour, do not appeal with anything like the same force to the "home feeling" that makes the cottage a family shrine.

* * *

The Dublin Reconstruction Bill, of which the second reading was carried on August 17, passed through Committee in the House of Lords on December 4, and was ordered for report. On the same date, when the House of Commons went into Committee on the Bill, Mr. Duke had a less exciting time than had been anticipated for him. Mr. Duke himself introduced most of the amendments, of which the most important, from our point of view, was that giving the City Architect certain powers relating to external design as well as to more utilitarian matters. This poor provision for amenity may possibly serve as a salve to the consciences of the authors of the Bill, but is more probably put forward as a means of evading any charge of indifference to architectural opinion. If the fronts are to be designed separately and independently, what can the City Architect do beyond ruling out any that are indisputably frightful? Quite obviously the clause puts the cart before the horse. There should have been a general scheme to which architects should have been required to conform; whereas the City Architect will find himself confronted with a number of heterogeneous designs out of which he will probably be expected to evolve harmony and consistency. We had hoped for better things from Dublin, which is not only missing a great opportunity, but, by accepting, with its eyes wide open, a higgledy-piggledy principle of rebuilding, renders still more remote the prospect of replanning on a rational scheme.

* * *

Mr. F. W. Higgenbotham, J.P., has very opportunely drawn attention to the question of ancient lights. He very justly observes that prescriptive rights of this kind may have a very serious effect on the rebuilding of Dublin. Where, before the demolition, the giant building prevented the dwarf from growing, these discrepancies will in all probability be repeated, if costly litigation is to be avoided. Here, then, is a chance for the insertion of a really useful clause in the Reconstruction Bill, to the effect that all such questions shall be predetermined, either by an inexpensive court of arbitration or by the mere fact of the City Architect passing the plans. Legislative reform in this respect is badly needed in England, and here is an excellent opportunity to establish a precedent and set an example. Already it is possible to cite the practice of the Scottish guild-courts in support of this amendment. If Ireland follows, England cannot much longer hold back.

HERE AND THERE.

THE modern aphorisms need now to be completed by the following collection, which I give without comment, remembering the proverb that "good wine needs no bush."

* * *

When a man understands the art of seeing, he can trace the spirit of an age and the features of a king even in the knocker on a door.—VICTOR HUGO.

My definition of a work of art would be .... a corner of creation seen through a temperament.—EMILE ZOLA.

Art is not the bread indeed, but the wine of life.—JEAN PAUL.

Taste is only to be educated by contemplation, not of the tolerably good, but of the truly excellent.—GOETHE.

Beauty in the arts is but a natural or educational prejudice, and inconstant, since it depends only upon the fashion of the time.—FREZIER.

All artistic production involves a large element of lucky accident, of which the true artist alone knows how to avail himself.—COVENTRY PATMORE.

Greek architecture is the flowering of geometry.—EMERSON.

A house is never perfectly furnished for enjoyment unless there is a child in it rising three years old, and a kitten rising six weeks.—SOUTHEY.

The pilasters reaching down were adorned with a glistering substance (I know not what) under glass (as it seemed), resembling—a homely fancy—but I judged it to be sugar candy—yet to my raised imagination, divested of its homlier qualities, it appeared a glorified candy. — CHARLES LAMB ("Essays of Elia,"—St. Mary's Porch, Oxford).

> In the elder days of Art
> Builders wrought with greatest care
> Each minute and unseen part,
> For the gods see everywhere.
>
> LONGFELLOW.

There can be no Art without encouragement. On the lonely islands of the Pacific, Mozart and Raphael would have been mere clodhoppers.—ROBERT SCHUMANN.

It cannot be imagined that either the back streets of our manufacturing towns, or the designs of our suburban villas, are things which the angels desire to look into; .... but we should at least possess as much unconscious art as the lower brutes, and build nests which shall be, for ourselves, entirely convenient, and may perhaps in the eyes of superior beings appear more beautiful than to our own.—RUSKIN.

It is just as impossible to create citizens by opening streets—whatever their width—as it is to create an architecture by giving its professors sites and money at discretion. If, then, architects would not wish to be classed, in the next century, among lost species and extinct historical individualities — such as astrologers, alchemists, and men in armour—it is high time they set themselves resolutely to work, for the venerable mysteries by which their dignity has been sustained are beginning to be exposed to the gaze of the vulgar; and if the public should take it into its head some fine day to insist upon a rational explanation of what is being built for it, there will be a vindictive reaction against these ruinous caprices—these orgies of stone. It is not by the mingling of styles, and combining without reason or principle, the architectural forms of various ages, that we shall discover the art appropriate to our own, but by making our first consideration the introduction of reason and plain good sense into every conception, using materials in accordance with their individual properties, and acknowledging a frank and cordial adoption of modern industrial appliances. — VIOLLET-LE-DUC ("Rational Building").

To say to the painter, that Nature is to be taken as she is, is to say to the player, that he may sit on the piano. That Nature is always right, is an assertion artistically, as untrue, as it is one whose truth is universally taken for granted. Nature is very rarely right to such an extent even, that it might almost be said that Nature is usually wrong; that is to say, the condition of things that shall bring about the perfection of harmony worthy a picture is rare, and not common at all. . . . The sun blazes, the wind blows from the east, the sky is bereft of cloud, and without, all is of iron. The windows of the Crystal Palace are seen from all points of London. The holiday-maker rejoices in the glorious day, and the painter turns aside to shut his eyes.—J. MCNEILL WHISTLER ("Ten O'Clock").

The Romanesque is allegorical of the Old Testament, as the Gothic is of the new. The parallel is exact. Is not the Bible, the inflexible book of Jehovah, the awful code of the Father, well expressed by the stern and penitential Romanesque; and the consoling tender Gospel by the Gothic, full of effusiveness and invitation, full of humble hope?—J. K. HUYSMANS.

> They make a front just like St. Paul's,
> Or like Westminster Abbey,
> And then as if to cheat the Lord
> They make the back part shabby.
>
> C. H. SPURGEON (on Chapel Building Committees).

Whatever in architectural work is endowed with the expression of death is bad art.—G. F. BODLEY.

A true architect is far more likely to be a practical man than a practical man is likely to be an architect.—NORMAN SHAW.

Mediævalism is as dead as a fern-leaf in a lump of coal .... other developments are shaping in the world in which Gothic architecture and its associations have no place.—THOMAS HARDY ("Jude the Oscure").

Of course I know that it is better to build a cathedral than to make a boot, but I think it is better actually to make a boot than only to dream about building a cathedral. — ELLEN THORNYCROFT FOWLER ("Concerning Isabel Carnaby").

Westminster Abbey is a great piece of the middle of the thirteenth century still projecting above the later strata of English life and effort.—W. R. LETHABY ("Mediæval Art").

The name of the architect who builds most of the castles in the air is "To-morrow," and "Hope" lays the foundation.—"PUNCH."

UBIQUE.



MODERN AMERICAN ARCHITECTURE (SERIES II.). XXII.—UNITED STATES POST OFFICE AND COURT HOUSE. DENVER, COLORADO: COURT OF APPEALS.

TRACY, SWARTWOUT AND LITCHFIELD, ARCHITECTS.

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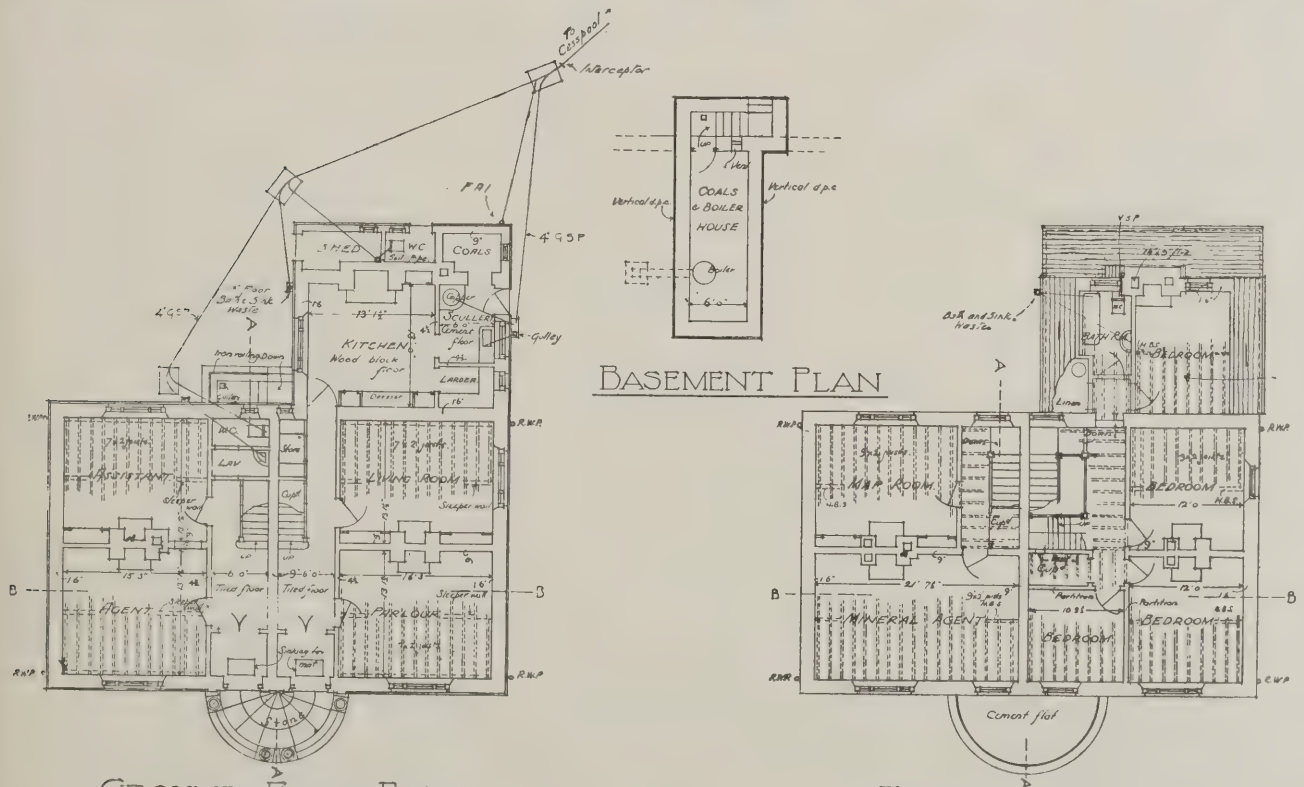


MODERN AMERICAN ARCHITECTURE (SERIES II.). XXI.—UNITED STATES POST OFFICE AND COURT HOUSE DENVER, COLORADO.

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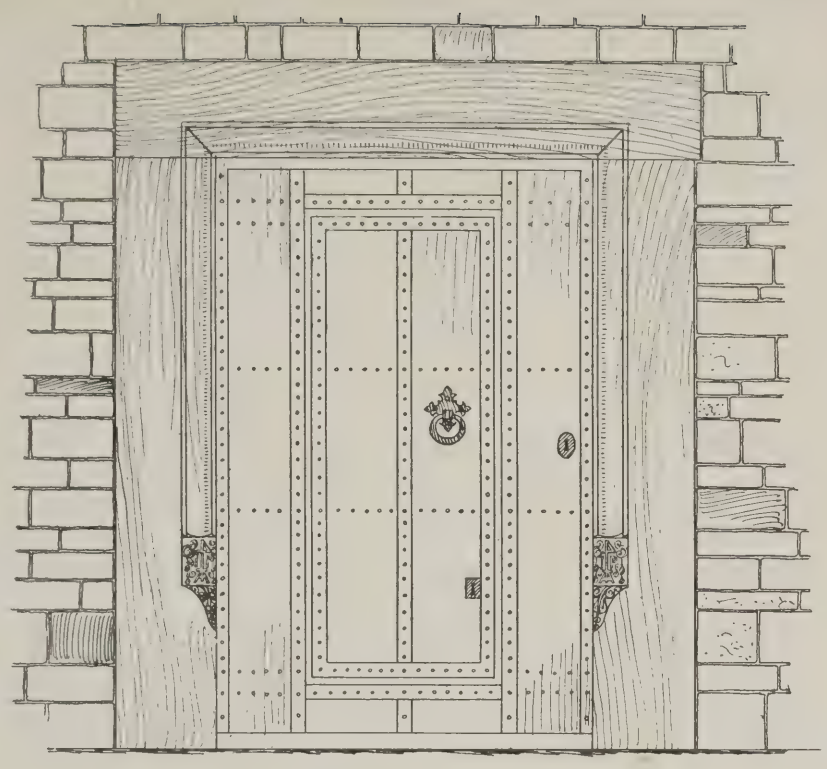


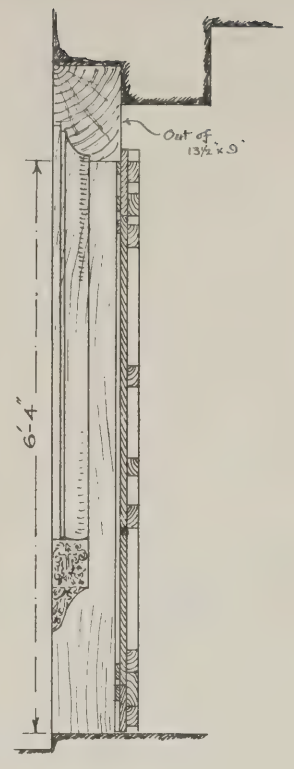


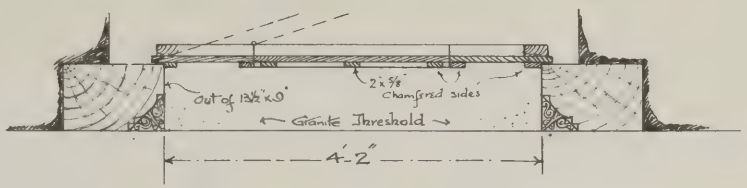
CURRENT ARCHITECTURE (SERIES IV.). X.—NEW DUCHY OFFICES. LISKEARD. CORNWALL.

RICHARDSON AND GILL. FF.R.I.B.A., ARCHITECTS.

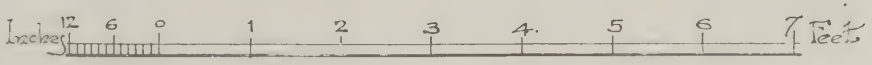
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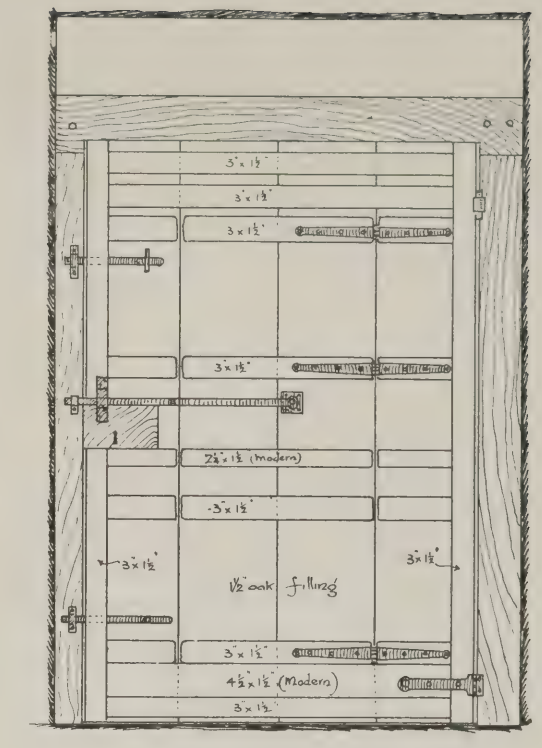




FRONT ELEVATION, SECTION, and PLAN:



Scale of Feet



BACK ELEVATION:

PENROSE ALMSHOUSES BARNSTAPLE 1627

DOORWAY LEADING TO QUADRANGLE

MEASURED AND DRAWN BY . . FREDERICK G PAIN

Supplement to "The Architects' and Builders' Journal," Wednesday, December 13, 1916.

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MONUMENTAL ARCHITECTURE (SERIES II.).

SIR WILLIAM [illegible]



RANCE GATEWAY. WILTON HOUSE. SALISBURY.

RS. ARCHITECT.

THE PLATES.

United States Post Office and Court House, Denver.

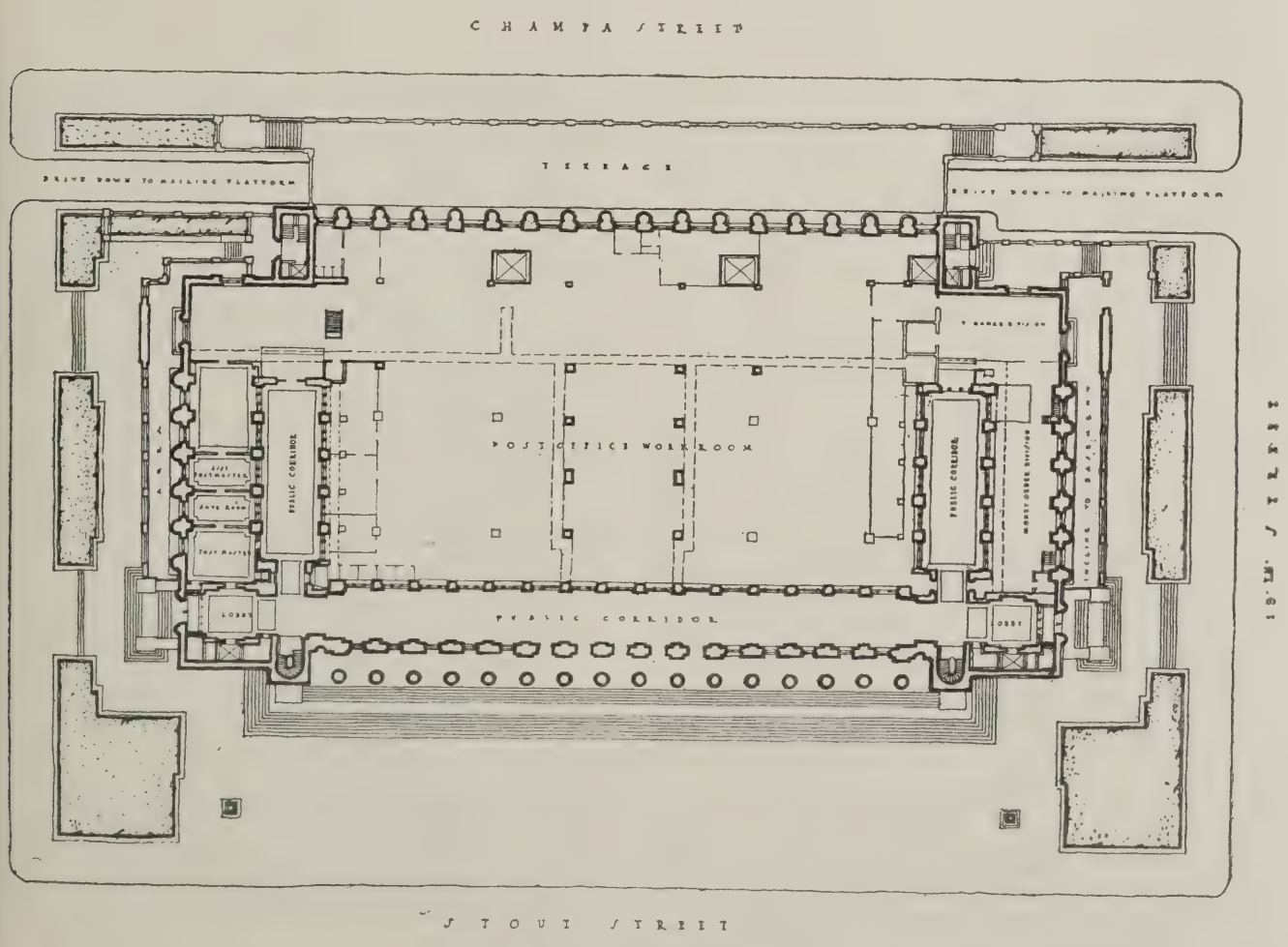
THE Post Office buildings of the United States are all on a large scale, displaying classical elements used in a broad way. This new example at Denver is typical of its class. The design was selected in competition. On the ground floor the main space is taken up by the Post Office, which has a public corridor on three sides and is approached through the colonnade on the main front. Above this level is a central block, with a large light area on either side, a law library being placed in the centre and two law courts at the sides—the District Court and the Court of Appeals, which latter is illustrated on our plate. The exterior of the building is carried out in white Colorado marble, and the interior areas in Indiana limestone. The main Order on the front is 44 ft. in height. The architect, Mr. Swartwout, says of its treatment: "As the working drawings were developed, I found it absolutely impossible to adapt a strictly Greek Order to the exigencies of a modern building. It is a practice to which I had always been opposed, but in the present instance I was a little uncertain as to what latitude would be allowed by the Government in any radical change in exterior design. Consequently, numerous studies were made and abandoned, and finally it seemed advisable to throw precedent to the winds and adopt a free form of Ionic Order, which would permit of more freedom in detail. While retaining the principle of the decorated necking of the Erechtheion, the scale was made much larger, and the national coat-of-arms, with the eagle and shield, substituted for the anthemion motive. . . . The eagle motive was used to a considerable extent, notably in the frieze of the pylon caps, which is continued practically around the entire building." The acoustical work in connection with the court rooms was carried out under the direction of Professor Sabine, of Harvard. In the District Court the panels in the ceiling were covered with acoustical felt, as was also the niche behind the bench. The felt on the ceiling was covered by a membrane dyed approximately the colour of the plasterwork of the ceiling, stretched so as to reproduce in actual material the linen folds that are sometimes used as a decorative feature in plaster. This, on account of the size of the panels and their segmental shape, was an extremely difficult matter, but was so well handled by the contractors that the result is extremely satisfactory. The felt on the niche was covered by velvet hangings of a rich dark blue colour, with gold trimmings. A similar treatment was adopted in the Court of Appeals, with the exception that here the felt was applied entirely to the walls, being covered by velvet hangings: velvet curtains were also hung for acoustical purposes between the screens of columns at each end of the court room; the velvet being of a rich purple colour, with gold trimmings, and harmonising well with the colour of the marble columns and with the painted decoration of the ceiling. The decoration of the two court rooms was under the direction of Mr. Rinschede.

Duchy Offices, Liskeard.

This little building was completed in 1914. It contains the local offices of the Duchy of Cornwall and house accommodation for the assistant agent. Messrs. Richardson and Gill, FF.R.I.B.A., were the architects, and Mr. W. H. Rothey, of Saltash, was the contractor.

Doorway, Penrose Almshouses, Barnstaple.

Few of our old towns can show so many almshouses of ancient foundation as Barnstaple. The greater number have been rebuilt or restored many times since they were first erected, but those founded in 1627 by



UNITED STATES POST OFFICE AND COURT HOUSE, DENVER, COLORADO: GROUND-FLOOR PLAN.

John Penrose, Mayor of Barnstaple, have escaped any serious alteration. They are quadrangular in plan, and it is one of the doorways opening into the quadrangle that is shown on the drawing, by Mr. Frederick G. Pain, which we reproduce. This doorway is interesting as a piece of seventeenth-century carpenter work.

Entrance Gateway, Wilton House, Salisbury.

The name of Inigo Jones is chiefly associated with Wilton House, but Sir William Chambers built the main entrance gateway there, and it is a fine example of his style. Good proportion distinguishes this gateway, and ornament is appropriately placed, a touch of gaiety being added to the whole composition by the equestrian statue of Marcus Aurelius which surmounts it.

BUILDING RESTRICTIONS: A TASK FOR THE NEW GOVERNMENT.

QUITE apart from sectional interests, there are strong reasons why the new Government should give attention to the question of building. Some of these reasons are stated in an able article on "The Manufacturer: His Task To-day," which appears in the "Daily Telegraph." The manufacturer, our contemporary observes, even if he can find the necessary capital, and has the courage to look ahead and work for the future, finds his activities checked in ways which he is powerless to control. He cannot build, for the building trade is disorganised, and the limited amount of labour available is almost entirely absorbed by Government work. He cannot enlarge his plant, for the engineering activities of the country are turned almost entirely into war channels. He cannot to any great extent accumulate stocks, for his output is reduced by the depletion of his staff or the substitution of new and comparatively unskilled labour for his best and most vigorous employees. He is hampered in all schemes for reorganisation by the uncertainty of the future, uncertainty as to the end of the war, uncertainty as to the effects of demobilisation, uncertainty as to the future course of trade.

No patriotic manager will complain of these handicaps, since they spring inevitably from the circumstances of a life-and-death struggle in which every other consideration must be subordinated to that of military strength; but it is only fair that they should be borne in mind when he is criticised for failure to take immediate action with reference to trade after the war. Even now, despite these handicaps, much is being done to increase the efficiency of our factories and prepare for a vigorous combined attack on the world markets, and recognition of the difficulties involved should increase our respect for the amount that is accomplished.

This matter of the building of factories for the coming expansion of trade should be taken in hand immediately by some Government department that is not directly concerned in the prosecution of the war; for we feel sure that careful investigation into all the circumstances would show the possibility of relaxing very considerably the restrictions on building. We suggest the formation of a mixed committee, in which architects and builders, as well as manufacturers and representatives of the Government, should be called into consultation.

Our contemporary's phrase, "the disorganisation of the building trade," needs some slight qualification, lest it create a wrong impression. In a sense it is "disorganised"—by the commandeering of men and materials—but there is another sense in which it is the most highly organised of industries; and of this fact the Government has been slow to avail itself.

THE NEW PRESIDENT OF THE SOCIETY OF ARCHITECTS.

MR. EDWIN J. SADGROVE, F.R.I.B.A., M.S.A., the new President of the Society of Architects, whose portrait is here given, received his early architectural training as a pupil in the office of Mr. A. J. Bolton, A.R.I.B.A., of London, and afterwards served him as chief assistant. Realising the importance to an architect of a practical knowledge of quantity surveying, in addition to his other qualifications, he afterwards applied himself to acquiring proficiency in this branch of his profession also. He commenced practice in London in 1887, his work being largely buildings of a domestic and commercial character, which have been erected from his designs in London and various other parts of the country. He has specialised in bonded tobacco factories. Mr. Sadgrove joined the Society of Architects in 1901, and in 1906 was elected a member of the Council. His regular and constant attention to his duties (says the Journal of the Society) soon marked him out for higher office, and he filled the position of Hon. Treasurer with much advantage to the Society. In 1914 he was elected a Vice-President. His services are frequently requisitioned as an arbitrator in building disputes. He has developed an inventive faculty which has enabled him to evolve several well-known patented appliances and substances connected with the equipment, repair, and decoration of buildings. The war caused him to turn his talent to further account in connection with inventions for the destruction and also for the preservation of life in warfare. Both the President's sons are serving in H.M. Forces. He is a Fellow of the Institute of Arbitrators. He is a Founder. Past Master, and Treasurer of the Society of Architects' Masonic Lodge, and has attained London rank.



MR. EDWIN J. SADGROVE, PRESIDENT OF THE SOCIETY OF ARCHITECTS.

LEGAL.

Alleged Breach of Contract.

Kleine Patent Fire-Resisting Flooring Syndicate, Ltd. v. Killby and Gayford.

October 13. Official Referee's Court Before Mr Pollock.

The plaintiffs in this case claimed damages for breach of contract in relation to the flooring of Messrs. Smith and Son's new building in Portugal Street.

Mr. Schiller, K.C., with Mr. Ralph Sutton, appeared for the plaintiffs, and Sir Reginald Acland, K.C., with Mr. Raynor Goddard, for the defendants.

Mr. Schiller, in opening, said that the action was for damages for breach of a contract. In the early part of 1913 Messrs.. W. H. Smith and Sons, he said, were building large warehouses on the site formerly occupied by King's College Hospital, and they entered into a contract with Messrs. Killby and Gayford for the erection of the premises for the sum of £151,000 odd. The managing director of the Kleine Company, Mr. Hirsch, obtained the contract for the flooring, Killby and Gayford entering, in January, 1914, into a sub-contract with them under which the whole of the flooring was to be put in by the Syndicate. It was only after the war broke out that the contract was broken. The architects under the principal contract sent to Messrs. Killby and Gayford what they called a variation order, and subsequently the floors were put in by another contractor. The plaintiff's case was quite a plain and straightforward one. He said that he had a contract which would have worked out at £11,364 17s. 9d., less a small sum for discount, and his profit upon this he had lost by the cancelling of the contract. Dealing with the details of the contract itself, counsel said that the usual form of building contract was entered into between Messrs. Killby and Gayford and Lord Hambledon, and it provided that the architects should be able to make variations. The plaintiffs contracted to put in all the fire-resisting floors, subject to such variations as might be ordered from time to time by the architects; but the term "variations" could not mean that the contractors had the power to say they would not have the floors at all. In August the war broke out, and the matter then became somewhat interesting. Questions seemed to have arisen as to the nationality of the company. The company, in fact, had no foreign interest whatever. It was formed in 1905 with British capital. No foreign materials were used, and no foreign workmen were employed. The Kleine Syndicate having represented that, in consequence of the increase in the cost of materials and other circumstances, arising mainly from the war, they would like a modification of the terms of their contract, the answer came from the architects six days afterwards, saying that they were unable to modify the contract in any way. Further correspondence passed, and on September 1 Messrs. Killby and Gayford wrote to the Kleine Company stating that after having read the correspondence between them and the architects they were not prepared to make any modification, but they were prepared to cancel the whole contract. In reply to that the plaintiffs wrote that it was never their wish that the contract should be cancelled, and that they would take steps to start the work. It was then intimated that the architects had determined to vary the construction of the floors throughout, and this was followed by a statement from the defendants that they had received from the architect a variation order which appeared to put an end to the contract. In the meantime the following events had taken place. The plaintiffs were a limited company, and on August 24 there appeared at the offices of the company a gentleman who took a great interest in the register of shareholders, but he was not interested on his own behalf. He was allowed to inspect the register on payment of the usual fee, and within seven days his interest manifested itself in a statement in regard to the company, which appeared in certain newspapers.

Sir Reginald Acland, K.C.: I don't see what anything which appeared in those newspapers has to do with this case. It certainly is not evidence.

The Official Referee: I don't know that it is evidence beyond the fact that it was there. How far it is evidence of fact is quite another matter.

Mr. Schiller said that he was only going to ask the court to draw certain inferences from the fact that the statements appeared in the newspapers. He was only going to state the bare fact that there appeared in those papers the names of a number of firms, amongst which was that of the plaintiffs, which they were pleased to call German firms. A number of circulars calling attention to these names were circulated, but by whom did not appear. One reached the plaintiffs from Scotland, so that the lie had got a good start before it could be answered. Counsel, concluding, asked the Official Referee to say that the reason why the plaintiffs' contract had been got rid of was because it was thought that the plaintiffs were a German firm, whereas everything connected with it, with the exception that three German names had appeared on the list of shareholders, was English.

Mr. Ernest Hirsch, the managing director of the plaintiff company, gave evidence in support of counsel's opening statement, as did also Mr. Reginald Johnston, another of the directors, who explained the principle upon which the Kleine floors were constructed.

Mr. Arthur Thomas Walmsley, member of the Institute of Civil Engineers since 1874, the senior partner of A. G. Walmsley and White, and since 1888 consulting engineer to the Dover Harbour Board, gave evidence as to the building of a test floor similar to the floors for the building in Portugal Street. He described the floor, the method of construction, and the satisfactory results accomplished.

Sir Reginald Acland, K.C., opening the case for the defence, remarked that it had been suggested by plaintiffs' counsel that the reason for omitting these floors was because the defendants were supposed to be a German firm. Even if that were so, it had nothing to do with the matter, as the architect was acting strictly within his power under the contract. Counsel, in conclusion, contended that the sub-contractor in such a case as this, when he had full knowledge of all the terms and conditions of the original contract, could not complain if the powers were used to his detriment, further than to make a claim for anything he had done before the order to omit was given and any expense which he might have incurred. In this case the sub-contractors had been compensated for everything.

After an adjournment of over a month, owing to the death of Mr. Henry Northcroft, a surveyor, who was taken ill during a week-end break in his evidence, the hearing of the action was continued on Tuesday, November 28, when further evidence of a technical character was given for the defence.

Mr. Geo. Cordroy, senior partner in the firm of Geo. Cordroy and Co., surveyors, of Westminster, and Mr. Young, of Railton and Young, quantity surveyors, gave evidence as to the profit which, in their opinion, the plaintiffs would have made had the contract been carried out.

Sir Reginald Acland, addressing the Court upon the defendants' case, contended that it was competent for the building owner, under the provisions of the main contract, to omit the floors altogether, and that if the plaintiffs had any grievance at all it must be against the building owner and not the defendants.

Mr. Ralph Sutton, replying for plaintiffs upon the whole case, contended that to say that the architect under the head contract could do away with the whole of the contract was an untenable interpretation of the variation clause.

Judgment was reserved.

Mr. Pollock, on December 5, delivered his reserved judgment in this action, which had occupied eight days in hearing. In the course of his judgment he said that it was agreed on all hands that the questions for decision were, first, whether the architect's order did put an end to the contract; secondly, if it did not put an end to the contract did the plaintiffs fail to comply with any conditions precedent which were obligatory upon them before they could bring action? The third question was if the defendants failed to show that they had a good defence to the action, what was the measure of damage? There was another point suggested, and that was that the plaintiffs had a claim against Lord Hambledon, but he could not see on what ground that could be based. He did not see that Killby and Gayford were acting as Lord Hambledon's agents, as had been stated. The main question was the determination of the contract by the variation order. It might well be that under the contract the architect had a right to call upon Killby and Gayford to omit the work, but that did not concern him in this case, as he had to decide between Killby and Gayford and the Kleine Patent Co., and his decision would depend upon the terms of the contract between those parties. In the contract it was agreed that the sub-contractors should execute the work specified in the schedule, subject to the terms set out. It said that they should duly perform all the obligations set out in the principal contract to the satisfaction of the architects. An important clause in the contract was that the contractors were to be entitled to determine the contract in the event of the work not progressing to their satisfaction, and that clause stipulated that no variation should be made unless authorised by the contractors in writing. The question of the right of Killby and Gayford to determine the contract depended upon the terms of the sub-contract. The contract showed that there was power with Killby and Gayford to make variations and alterations, but the making of variations and alterations pre-supposed the existence of a contract, and if the contract were determined there was nothing upon which variations and alterations could be made. They only had power to determine the contract upon certain conditions, and they only determined it upon a condition which they got from the architects. In his opinion the direction of the architects did not give them the power to put an end to the contract. Under the contract of May 29 no power was given to Killby and Gayford to determine except under clause 4, which did not give any power to determine

because the architects had omitted any work. Therefore, in his opinion, the defendants had no power whatever to determine the contract. The architect's variation order did not put an end to the contract. The next question was as to the conditions precedent. All that the Kleine Co. had to do was to give guarantees to the architects, which they did, and obtain the approval of the district surveyor to the figures and calculations, which they did. There was no doubt the Kleine Co. did send to the district surveyor the calculations and that he gave his consent, subject to some slight modification. He thought it clear from the letters and from the evidence of Mr. Hills (the district surveyor) that he did give his approval to the figures and calculations for part of the work. It was suggested that other work was required, but that was not under the Kleine Co.'s contract; and even if they had to get approval of other figures there was nothing to show that they would not have obtained it. In his opinion there was no ground of defence in the suggestion that the plaintiff company did not obtain the approval of the district surveyor. He came now to the question of damages. Upon that a great mass of evidence had been given—a considerable amount for the purpose of showing that the floors were incapable of doing the work which they were intended to do. The suggestion was that the floors would have created a thrust upon the framework of the building, but that was disposed of when Mr. Hills was called, because he said he was satisfied that nothing of the sort would have occurred. The only question was what damages had the plaintiffs sustained under this contract for £11,364. On the whole he did not think it would be treating the plaintiff company unfairly if he assessed the damages at £1,500, and he therefore gave judgment for the plaintiffs for that amount, with costs.

[We are informed by the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., 133-6, High Holborn, W.C., that the test floor constructed for the purposes of this case in November of last year is still under load, and can be inspected by any person interested.]

Lease Lessor's Surveyor's Charges.

Trustees of Royal Oak Benefit Society v. Edwin James Sadgrove.

November 9. Clerkenwell County Court. Before His Honour Judge Howland Roberts.

The trustees of the Royal Oak Benefit Society sought to recover against Edwin James Sadgrove the sum of £17 2s. 6d., made up as follows: (1) The amount of the society's solicitor's costs for preparing, settling, and completing lease and counterpart of property of £135 annual rental, £10 2s. 6d.; (2) stamps on lease and counterpart, £1 15s.; and (3) surveyor's fees for plans and particulars of state of repair, £5 5s.

Evidence was given on behalf of the plaintiffs by the plaintiffs' solicitor and assistant surveyor, while, on behalf of the defendant, Mr. Sadgrove himself and Mr. A. E. Pridmore, past president of the Society of Architects and F.S.I., and Mr. E. C. P. Monson, P.S.A., F.R.I.B.A., F.S.I., were called. After considerable argument by counsel on each side, the learned judge, on the authority of re McGarel, 1897 (1 Ch. 400), held that the proper solicitor's costs for preparing lease and counterpart, as per scale fixed by the Solicitors' Remuneration Act, were £7 10s., and, following re Negus, 1895 (1 Ch. 73), decided that the landlords—the plaintiffs—must themselves bear the cost of preparing the counterpart, amounting to 15s. out of the £7 10s.

The correspondence that passed between the parties showed that there was no binding contract until the schedule of repairs had been agreed, and after evidence of the above-named architects and surveyors to the effect that it was the custom for each party to pay his own surveyor, his honour decided against the plaintiffs in respect of the surveyor's charges for particulars of state of repair, which he disallowed, holding that they were costs of preparing, settling, and completing lease and counterpart, and that even if that were not so the work done would come within the scope of negotiations for the lease (re Gray, 1901, 1 Ch. 239).

The judgments of Lord Herschell and Lord Halsbury in Savery and another v. Enfield Local Board, 1893 (Ac. 2), showed that the words "preparing, settling, and completing the lease and counterpart" covered the whole of the transaction from the beginning to the end—that is to say, the negotiations for the lease as well as the preparation and settling of the lease in the limited sense of these terms. As to the plans, his honour held, on the authority of re Negus, that the costs of the plan on the counterpart were part of the costs of the counterpart, and accordingly fell upon the lessors; and, further, that, as the plan on the lease was, according to the evidence, a tracing of a former plan, no special charge could be made in respect of that plan (re Read, 1894, 3 Ch. 238 at p. 249). His honour accordingly disallowed as against the lessee any charge for plans.

The result was that the learned judge held that the total amount payable by the lessee was £8 5s., made up of the following items: (1) £6 15s., being £7 10s. the scale fee for lease and counterpart, less 15s., the costs of the counterpart. (2) £1 10s., the stamp on the lease. As the defendant had paid more than this amount into court, his honour entered judgment for the defendant, with costs from the time of the payment-in, the plaintiff recovering the £8 5s. with costs on that amount until the time of payment-in. The judge declined to certify for higher scale costs than the scale applicable.

Counsel for the plaintiffs, Mr. Zeffert, instructed by Mr. W. J. Wenham; counsel for the defendant, Mr. G. Wightman Powers, instructed by Messrs. Francis Miller and Steele.

OBITUARY.

Mr. Edward Cratney, M.S.A., Licentiate R.I.B.A.

Mr. Edward Cratney, architect, of Willington, who had offices in Wallsend and Newcastle, has passed away at the age of thirty-four years. Though a young man, Mr. Cratney had come to be recognised as one of the most successful architects in the North Country. He specialised in housing schemes, and his designs frequently gained first place in competitions. In the North of England Model Cottage Exhibition he gained the gold, silver, and bronze medals, and he was Newcastle Corporation's architect for their proposed housing scheme at Walker. He was also architect for the new cemetery at Whitley Bay.

Mr. Charles W. Bell, Licentiate R.I.B.A.

The death has occurred at his residence, 6, Ashleigh Villas, East Boldon, of Mr. Charles William Bell, at the age of thirty-seven years, who was in practice at Sunderland as an architect and surveyor. He had been a member of the South Shields Rural District Council and Board of Guardians since 1910, and was also a member of the local tribunal. For several months he had been troubled with a throat complaint, and had been ill for the last nine months.

Mr. Thomas Lister Patchett.

Mr. Thomas Lister Patchett, architect, who has died at the Royal Halifax Infirmary at the age of seventy-one years, was formerly a partner in the oldest firm of architects in Halifax. In the early seventies he began to learn the business of architect with the late Mr. Richard Horsfall, the jubilee Mayor of Halifax, who, at the age of twenty years, started practice for himself in Halifax in 1848, subsequently taking into partnership the late Mr. M. Wardle. Mr. Patchett was ultimately taken into partnership, the firm going under the style of Horsfall, Wardle, and Patchett. In latter years dissolutions took place, and the firm is now styled Richard Horsfall and Son, of whom Mr. Richard Edgar Horsfall, the son, is the principal. Mr. Patchett was a member of the Halifax Architectural Association.

Sir George Moyers.

Sir George Moyers, Lord Mayor of Dublin in 1881, an architect and surveyor by profession, died somewhat suddenly last week. During his term of office he was one of the opponents of the granting of the freedom of the city to Parnell, and the numbers, for and against, being equal his casting vote secured the rejection of the proposal. The honour of knighthood was conferred on him in 1887.

WAGES MOVEMENTS.

Increased Wages at Plymouth.

The Plymouth and District Association of Building Trade Employers have decided to increase the rate of wage of labourers from 6½d. to 7d. per hour as from December 1, the war bonus, at the rate of 2s. per week, to be paid as before.

Edinburgh.

It is understood that the Edinburgh Master Builders' Association have declined the request of the joiners for a war bonus, holding to the terms of the existing agreement between the parties.

Bideford.

Bideford builders have agreed to give an advance of one penny per hour as a war bonus to masons from December 6 until six months after the declaration of peace.

The Birmingham Wages Dispute.

The building trade operatives of Birmingham, who recently made an application for an increase of wages at the rate of 2d. per hour, have been awarded an advance of 1d. per hour. The award of Mr. E. Page, K.C., to whom the question was referred states that in addition to any bonus that was now being paid the employers shall pay for each ordinary hour of work the sum of 1d. by way of bonus, such bonus to be paid from the second pay day in December, 1916, and continued until three months after the declaration of peace. The award is limited to munition work within the meaning of the Munitions of War Acts. It is intended to affect not only members of operative trades societies who have in existence working rates agreed with the employers' association, but also the plumbers, slaters, and tilers, and navvies, who were represented at the arbitration proceedings.

ARCHITECTURE IN RELATION TO HEALTH AND WELFARE.

Speaking on "Architecture and War," in the first of a series of Chadwick Lectures which he is delivering, at the Surveyors' Institution, Mr. Paul Waterhouse said destruction was not the only effect of war on architecture. Alongside of irreparable losses there were other losses—the obliteration of certain parts of cities which would probably, after the declaration of peace, herald new advances in town-planning. Moreover, England had learned during the war how to collect and how to spend public money on a large scale. Such expenditure would, it was true, leave England poorer, but the lesson so learnt might, perhaps, lead in time to expenditure—liberal expenditure—on the pleasures of peace rather than on the horrors of war. Here was a great chance for those larger schemes of municipal town improvement which lacked only funds to give them realisation and success. Possibly also England would have learnt that in municipal no less than in Parliamentary elections, where great work was to be done, and where specially qualified custodians were required, it was more important to choose specially qualified men than men distinguished merely by party tickets. London in particular needed guardians who were either experts in the care of London or willing to engage expert advice. In regard to the influence of architecture on war, he spoke of the spiritual or sentimental effect of architecture in that mysterious virtue of patriotism which rather than commercial instinct was the true mainspring of defensive war in a Christian people.

On Thursday, December 7, Mr. Paul Waterhouse delivered, at the Surveyors' Institution, his second Chadwick Lecture on "Architecture in Relation to Health and Welfare." The special heading was, "The Growth and Overgrowth of Towns." The lecturer, whose remarks were illustrated with lantern slides, opened by pointing out that nearly all large cities were the result of the expansion or agglomeration of original small towns—consequently, since the requirements of a large modern city are essentially different from those of a small mediæval town or primitive hamlet, it could only be by a sort of accident that any modern towns of large size fulfilled the requirements of its many inhabitants.

Tracing the normal historical growth of a village or town, and explaining the extent to which roads acted both as cause and effect in town development, Mr. Waterhouse illustrated his line of argument by special reference to London—of which he exhibited plans. He proceeded to make allusion to the possibilities of improvement by drastic remodelling, and gave as an example the plans prepared by Evelyn and Wren for the re-formation of Central London after the Great Fire, showing a slide of Wren's scheme as applied to London to-day, he criticised the faults into which even a man of Wren's foresight could fall through insufficient prescience of the coming needs and growing greatness of the metropolis.

The lecturer dwelt upon certain main principles of plan which should dominate the remodelling of congested cities of large size and made his lecture in a general sense preparative to his address on "The London of the Future," which is to be given at the Surveyors' Institution on December 14 at 5.15 p.m.

FOR KING AND COUNTRY.

KILLED.

Second-Lieutenant R. Wheatley.

Second-Lieutenant Roland Wheatley, Sherwood Foresters, who has been killed in action, was the younger son of Mr. A. Wheatley, of Derby, the Midland Railway Co.'s chief architect. Twenty-two years of age, he was educated at Riber School, Matlock, and at Uppingham, and was articled to a Derby accountant. When war broke out he enlisted in the Royal Fusiliers Public Schools Battalion, and after serving at the front was gazetted last July to the Sherwood Foresters.

Lieutenant L. H. F. Kerr.

Lieutenant Leslie H. F. Kerr, A.S.C., who has been killed at the front, was the younger son of Mr. R. H. Kerr, F.R.I.B.A., architect, of Golden Square, W., and 29, Seymour Street, W. Educated at Glayesmore, Pangbourne, he was gazetted to the Army Service Corps in September, 1914, and had been out at the front for the past eighteen months.

WOUNDED.

Private R. A. Allback.

We regret to hear that Private R. A. Allback, 10th Royal Fusiliers, eldest son of Mr. W. Allback, the chairman of Claridge's Patent Asphalte Co., Ltd., is lying in the 1st Southern General Hospital, Edgbaston, suffering from compound fracture of the thigh and other injuries received in some of the recent fighting on the Western Front.

MORE MILITARY CROSSES FOR ARCHITECTS.

Lieut. Hugh Bowman.

We are indebted to Mr. Douglas Bowman, hon. editor to the Leeds and West Yorkshire Architectural Society, for the courtesy with which he points out that our reference in last week's issue, p. 225, to his brother Lieut. Bowman, was inaccurate. We gave the gallant Lieutenant the Christian names of his father, Mr. G. F. Bowman, who is president of the Leeds and West Yorkshire Architectural Society. We have now pleasure in reproducing a portrait of Lieutenant Hugh Bowman, of the Yorkshire Regiment, who, as we recorded last week, has come through such heavy fighting in Gallipoli and in France, and has been awarded the Military Cross for conspicuous gallantry in action. Previous to the war he was completing his articles in his father's office.



LIEUT. HUGH BOWMAN (YORKSHIRE REGT.)

(*Awarded Military Cross*)

Second-Lieutenant John Harold Hartley.

Second-Lieutenant John Harold Hartley, Royal Engineers, a young Wakefield architect, has been awarded the Military Cross "for great courage and determination. He consolidated a newly-won position under very heavy fire, and set a splendid example to his men." Soon after the outbreak of the war he joined the Army as a private, and quickly gained promotion. He received his education chiefly at the Leeds and Wakefield Technical Schools.

HOUSING IN SCOTLAND.

At a meeting of Glasgow Presbytery the Rev. Dr. Watson, in the course of a report on the housing question, stated that he understood that one of the findings of the Royal Commission on Housing was that 120,000 houses were required at once in Scotland. He moved that in view of the clamant scarcity of houses and the likelihood of unemployment after the war the Presbytery should support the proposal that schemes of housing should be prepared now by local authorities, so that on the declaration of peace operations might be at once begun which would provide useful national work for the unemployed and an adequate supply of good healthy houses. He said that the scarcity of houses to-day was far worse than it was a year ago. He believed he was speaking the truth when he said there was not a habitable house to be got in Glasgow. There was a large number—some 8,000—of houses which had been condemned as unfit for human habitation now being occupied. There was very serious overcrowding. The Royal Commission on Housing had not yet issued its report, but he was authoritatively informed that one of its findings was that there were required at once in Scotland 120,000 houses. That was the minimum. For Scotland and England combined half a million houses would be required. That was a very serious position, and would require all that private enterprise, local authorities, housing associations, and the State could do. The motion was adopted.

A party of about eighty members of the Scottish National Housing and Town Planning Congress, which sat in Glasgow, inspected cottage housing schemes which are being carried out in Lanarkshire by the Middle Ward District Committee. The party visited three groups of new cottages—at North Road, Bellshill, where 100 houses are in course of erection; at Coronation Road, Mossend, where 50 houses are partly completed and partly in course of completion; and at Cleland, where 50 houses are completed and occupied. The visitors were favourably impressed with the enterprise of the local authority, as a result of which neat, finely situated semi-detached cottages of two, three, and four apartments, each with garden plots in front and rear, are being provided at rents varying from £13 to

about £18. Some interesting details regarding the schemes, particularly in relation to the financial arrangements upon which the promoters are proceeding, were given by Mr. W. E. Whyte, Clerk to the District Committee, at a luncheon to which the delegates were entertained at Hamilton after they had inspected the houses.

At Bellshill cottage suburb they saw the houses at various stages of construction, some almost completed and others with only the sites prepared. The design of the lay-out, it was explained, is of a somewhat unusual character. Instead of being in straight rows, the houses are set in an irregular alignment in crescent form. There are considerable spaces between the houses, and the streets are wide, being particularly spacious about the centre. Two streets, with their row of houses on each side, run off at right angles from the main thoroughfare. The houses are of brick construction, with roughcast walls. Mr. Tonner explained that the Bellshill scheme was unlike those at Cleland and Harthill in respect that it had to be carried out at war prices. They had gone on with it at the instigation of the Ministry of Munitions, after having hesitated because of the fear that prices would be so high that they could not let the houses at rents suitable for working-class tenants. The Ministry of Munitions had offered them £7,500 as a grant—that worked out at about 15 per cent. of the cost—but they were still insisting that all the excess over pre-war costs should be met by the Government. The houses were fitted with modern conveniences, even the room-and-kitchen house having bathroom, hot and cold water, scullery, larder, and coal cellar. The rents of the houses would be higher than under the other schemes, but he expected they would be able to let even the larger cottages at about seventeen guineas. The visitors were subsequently driven to Mossend and Cleland, where they were invited by a number of the tenants to examine the occupied houses. The cleanliness, the good quality of the furnishings, and the taste with which these houses were adorned was commented upon afterwards at the luncheon by a number of speakers.

Replying to questions, Mr. Whyte said it was not yet known exactly what the cost of any of the schemes would be. They started the Cleland scheme at a very favourable time prior to the outbreak of war. Their estimates were for room and kitchen single-storey house, £187; two-room and kitchen, £207; and three-room and kitchen, £214. They had had to make concessions to the plumber and joiner contractors, but he could assure them that the actual cost of construction would not be much in excess of their estimate. It was instructive to compare with these figures the costs of Bellshill scheme, which was being carried out at war prices. The accepted offers were: For room and kitchen house, £250; two-room and kitchen, £290; and three-room and kitchen, £300. These contracts were made some nine months ago. The rentals on the completed Cleland scheme were: £13 per annum for room and kitchen house, £13 13s. for two rooms and kitchen house, and £14 for three-room and kitchen house. These rents were estimated to be adequate, but they might have to recast the scale slightly in consequence of the concessions they had made to the plumber and the joiner. They had arranged to repay their loan on an annuity basis instead of on the usual instalment plan. They found that the tenants of the cottages were greatly appreciative of what they had provided. Each tenant was trying to keep his house in good order, to cultivate his garden, and to take full advantage of the conveniences supplied.

In the House of Commons on November 29 Mr. Barnes, member for the Blackfriars Division of Glasgow, asked the Secretary for Scotland whether, in view of the housing conditions at present prevailing in Scotland, he would advise the early publication of the report of the Scottish Housing Commission, in order that it might be considered by the authorities concerned, and plans laid to be put into operation as soon as possible.

The Secretary for Scotland (Mr. Tennant): Yes, sir, I am anxious that the Commission should complete and issue its report at the earliest possible date, and am doing all I can to secure that object. I am informed, however, that the report cannot be expected for some months to come.

NEWS ITEMS.

Proposed Fire Station Extension, Glasgow.

There is a proposal to extend the Glasgow Central Fire Brigade Station by the purchase of property in High Street belonging to the Glasgow and South-Western Railway Company, which abuts on the Fire Brigade establishment.

Edinburgh's Memorial to Gladstone.

The statuary, including a monument of the great statesman, which has now been erected in Edinburgh as a memorial to Mr. Gladstone, has been unveiled by Lord Rosebery. The monument is the work of Mr. Pittendrigh MacGillivray, R.S.A. It has been placed in St. Andrew's Square, and the statue of Mr. Gladstone overlooks Princes Street.

A Tudor Roof at Beddington.

The old Tudor hammer-beam roof of the hall of the Royal Female Orphan Asylum at Beddington, near Croydon, has been restored under the superintendence of Mr. E. H. Bourchier, F.R.I.B.A., the honorary architect. The decayed parts of the oak have been cut out and the principal supports reinforced by steel, at a cost of about £800.

Change of Address.

In view of the fact that letters are sometimes sent to their old address, 41, Old Queen Street, Westminster, Messrs. Henry Faija and Co. desire to state again that their present address is 6, Earl Street, Westminster, where they have larger and more commodious laboratories for testing and analysing cement and all kindred constructive materials.

Stonework Restoration.

The restoration of the stonework of the London and South-Western Bank, North Brixton Branch, London, S.W., as well as similar restoration work to the stonework of the Streatham branch of the Home and Colonial Stores, and the Streatham branch of the Express Dairy Co., Ltd., is being carried out by the Stone Preservation Co., Ltd., 9a, Little James Street, Gray's Inn Road, W.C.

Town Planning for Woolwich.

At a meeting of Woolwich Borough Council it was reported by the Works Committee that the L.C.C. had replied to a request that they should consider the advisability of proceeding at an early date with the preparation of a scheme for the town-planning of London and to consider therewith suggestions with regard to Woolwich; stating that there was little likelihood of anything being done in the matter until things became normal. Notwithstanding this statement, the Council decided that the Borough Engineer should proceed with a scheme for Woolwich as opportunity offered. This was agreed to.

The New Government "Public Houses."

The new restaurant built on the premises of the "Greyhound" Tavern, Enfield Lock, has been provided by the Central Control Board (Liquor Traffic) to meet the needs of the workers in the Royal Small Arms Factory, and has accommodation for 350 persons. The contractors were Messrs. Patman and Fotheringham, Ltd., who are now carrying out a similar establishment at the "Royal Small Arms" Hotel.

Wallasey War Memorial.

A proposal is on foot for the erection of a handsome public memorial to Wallasey's fallen heroes. The memorial will be part of a scheme for an improvement of the frontage of the Liverpool Yacht Club premises at the old Liscard Battery on the promenade. This scheme has been approved by the Works Committee of the Wallasey Corporation. The proposal is to erect a handsome monument, to cost £1,500, in the centre of the new promenade garden which the improvement indicated will provide.

Plumbers in Conference.

The half-yearly meeting of the Institute of Plumbers was held recently at Rochdale. Mr. J. Allinson, jun., the president, stated that they had met the Building Trades Federation and the Institute of Builders in conference and discussed a new form of sub-contract which had been based upon the form approved by the Royal Institute of British Architects. Their views had been adopted in one or two particulars, but others involved a reference to the solicitor who had drawn up the draft. The clause which particularly interested them was that relating to the question of finance. He thought they would be satisfied with the arrangement made to control the methods of payment. Proceeding, he said they had not yet been able to reach finality in the matter of the agreement between plumbers and the hot-water engineers. A slight difficulty affecting the method of taking the vote had arisen in connection with the United Operative Plumbers' Association, but it was expected it would be settled shortly. Mr. Allinson referred to the question of their relationships with the manufacturers. There must be some readjustment of the glaring anomalies at present existing. The position of the sub-contractor was also materially affected by the decision of the House of Lords in the case of Hampton v. the Glamorgan County Council. That appeal had gone against them. The judges expressed their sympathy with the sub-contractor, who had done honest work and who was unable to secure payment, but sympathy was of no value. That case, however, would be a blessing in disguise if it meant that the sub-contracting trades of this country got together to arrange a common basis of action. [The question of responsibility of chief contractor to sub-contractor arose also, as a side issue, in the case of Kleine Syndicate v. Killby and Gayford, reported on p. 273.]

ELECTRICAL NOTES.

Universal Girder Clamps.

Modern buildings present considerably more difficulties to the wiring contractor than those erected before the days of reinforced concrete and fireproof floors. Not the least of these difficulties is that presented by steel girders, when wiring conduits are required to negotiate these, and therefore a properly designed girder clamp as a means for holding the conduits is a desideratum. Large numbers of girder clamps have been put on the market, but most of them are for a particular section of girder or only permit of adjustment within small limits. And although the Engineering Standards Committee have chosen certain sections of girders for general use, there is still a great variety of them, so that what is really required is a universal clamp. In designing a clamp of this kind, Messrs. Simplex Conduits, Limited, recognised that the best arrangement was to use the device to secure a small wooden batten to the base of the girder instead of using the clamp itself to carry the conduit. This simplifies the matter, because the requirements of the clamp are merely to grip the web of the girder and to hold the batten in place. For this purpose each batten is held by two clamps, one at each end, which fasten on the edges of the girder by means of a set screw at the top and grip the wood securely by three sharp points cast in the base. The clamps are made of tough malleable iron, stove enamelled jet black, and are at present provided in two sizes. It is obvious that the wood battens, which should be about ¾ in. thick, can be used to support by means of wood screws any ceiling rose, box, saddle, or other device. They are not sold with the clamps, as they can easily be obtained on the job. For angles or odd sections the batten can be placed lengthways and two girder clamps spaced along the free edges to hold it in position securely for the conduit erector.

Weatherproof Lanterns.

In anticipation of the present temporary lighting restrictions being removed on the conclusion of peace, the British Thomson-Houston Co., Ltd., with long foresight, has published a 44-page catalogue devoted exclusively to this class of fitting for standard and half-watt lamps. There is nothing like being prepared to supply the right thing at the right moment, and in this very comprehensive catalogue the opportunity has been seized to introduce up-to-date fittings, in expectation that, with the return of normal conditions, there will be rapid progress in outdoor illumination. It is pointed out that half-watt lamps are now available in sizes from 15 to 1,500 watts, and for voltages between 25 and 255. They can be used on alternating circuits of any frequency down to 25 cycles, and may be run singly on high or low voltage of direct or alternating current supplies, or in series to replace groups of arc lamps. In other respects these advantages over arc lamps are now well known, but, owing to their high temperature, it is essential that, when used out of doors, they should be thoroughly protected from driving rain, properly ventilated, and that provision should be made for scientific distribution of the light.

The makers claim that all these points have received careful attention in the design of the lanterns. Amongst the new models listed are the "Strela" cast-iron lantern with vitreous enamelled reflector; the "Globa," the "Alabas," the "Ilstra" street-lighting lantern, and the "Radial Wave," all of which are suitable for the Mazda half-watt lamp and can be adjusted in respect of the total length, so that lamps of different sizes may be employed in the correct position relative to the reflector. The B.T.H. series incandescent street-lighting system is also described, whilst special lanterns for it, and cast-iron and ferro-concrete pillars are listed. This system provides for the replacement of arc lamps on series circuits without altering the latter, substitutional resistances with automatic cut-out for each lamp, and constant current transformers for each circuit. An automatic film cut-out is included for each lamp to prevent the extinction of a number of neighbouring lamps. In conclusion, the catalogue contains examples of watertight lanterns, fittings, and holders for standard Mazda lamps, for use in mills, factories, shop windows, and steamships, and is replete with information as to construction and applications.

Incandescent Lamp Handbook.

The same company has published a little book under this title, No. 1, for the electrical trade, giving information as to prices, discounts, sales rules, and general data relating to both standard and half-watt lamps. This useful work contains all that should be useful to the electrical contractor and is well worth obtaining and digesting. An innovation is found in the rating of the light given by the different lamps in terms of "Lumens," a new unit, which it is claimed is a true measure of the light



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THE LIFTING SPAN OF KEADBY BRIDGE.

In the paper on Keadby Bridge, which Mr. J. B. Ball read before the Institution of Civil Engineers (see last week's issue, p. 266), the following particulars were given of the electric working of the span:

The lifting span is worked electrically by means of two 115-h.p. direct-current motors, carried on the leaf itself, the power being transmitted through trains of gearing to the main pinions on each side. The angle of maximum elevation of the bridge when full open is 81°51, and the time taken to open or close it by electrical power is less than two minutes.

Owing to the absence of power in the neighbourhood, a special plant for the generation of current had to be put down, consisting of two direct-coupled petrol engines driving two 50-k.w. continuous-current machines, the current being delivered at the switchboards at 220 volts. A large storage-battery is provided, capable of supplying the motors with current for about thirty operations of the bridge before recharging is necessary.

Two sets of electric brakes are provided, and at the fore end of the span two heavy forged steel bolts, worked electrically from the control cabin, engage with castings anchored down to the pier, so locking the bridge when in the "down" position.

To prevent the too rapid descent of the leaf as it comes down on to the bearings, a pneumatic buffer is provided at the front of the span, whilst at the rear end bumping-blocks are provided on to which the counterweight comes down when the leaf attains its maximum elevation.

In order to meet the requirements of the navigation authorities, the lifting span was erected in a vertical position, ten months being occupied in this work. Electrically operated gates are provided for the protection of roadway traffic, which are interlocked with the railway signals, which latter, it may be observed, are what are known as three-position signals, and are the first to be installed as a complete scheme in this country.

Estate of the Late Mr. Phené Spiers.

It is announced that the late Mr. R. Phené Spiers, F.R.I.B.A., F.S.A., who died on October 3, aged seventy-eight, has left estate to the value of between ten and eleven thousand pounds.

First Garden City.

In May last the issue of 10,000 of the unissued £5 shares of the First Garden City was authorised, and the directors in their report for the year ended September state that of 2,000 shares offered 1,094 (£5,470) have been subscribed, while the Ordinary capital has been increased by £251 and the Four and a-Half per Cent. Second Debenture capital by £2,960. Dividends are being paid on the increased Preference capital, but there is no distribution on the Ordinary. The net profit for the past year amounted to £5,700. The activities in the industrial area have been fully maintained, but the letting of the company's residential land has naturally been affected by the war, as building at the present time cannot be entertained except in special circumstances.



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THE
ARCHITECTS' & BUILDERS' JOURNAL.

Wednesday, December 20, 1916. Volume XLIV. No. 1146.



FIGURE OVER MAIN ENTRANCE TO ALLEGHENY COUNTY SOLDIERS' MEMORIAL, PITTSBURG, PA.

THE ARCHITECTS' & BUILDERS' JOURNAL.

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EDITORIAL.

GOVERNMENT is being urged, from more than one quarter, to nationalise the housing question. On this subject an "insurance committee" surely represents not the least of the interests that should be considered; and the West Riding Insurance Committee, in pressing upon the Government the desirability of formulating and subsidising a national scheme, to be put into operation as soon as the war is over, represents—or, rather, is typical of—a rapidly growing body of opinion. There seems, indeed, to be something like a general consensus that State aid in some form will be necessary if the difficulties created by the war, and likely to take a permanent set, are to be overcome. As we have repeatedly pointed out, what may be called the "mixed method" of housing had much to recommend it before the war changed the conditions. By the "mixed method" we of course mean the provision of houses now by public authorities, and now by private enterprise, as occasion seemed to dictate; for there were circumstances in which the one or the other would be the more appropriate, or the more possible; the public authority coming in where, from whatever cause, private enterprise happened to be sluggish.

* * * *

It is now almost generally held that the strong attraction of capital in other directions (to say nothing of its scarcity) will throw upon municipalities nearly the whole burden of working-class housing, and that they will not be able to endure it unless the State comes to the rescue. This opinion can only be regarded as crude and tentative—based on the emergencies of the moment, and on an incomplete survey of rather complicated and unfamiliar data. In some quarters it seems to be taken for granted that, the housing of the people being of at least equal importance with popular education, the same methods of State aid apply, and will probably be adopted. While the parallelism is by no means perfect, it must be admitted that the precedent has some force. There is, for example, some similarity between the position of those bodies who were willing to build and equip schools if the Government would assist in their maintenance, and that of the capitalists or housing philanthropists who are expressing their willingness to provide dwellings if grants-in-aid are forthcoming. Free education came as a corollary to compulsion, and was in effect at the same time an admission that vast numbers of people were unable or unwilling to pay school-pence. There are, it is evident, equal numbers who are unable or unwilling to pay a fair rent, but it does not follow that compulsory decent dwelling will find its logical sequence in free housing. And, if only on moral grounds, unremunerative rentals should be steadily discouraged. Semi-pauperisation does not foster "a bold peasantry, its country's pride."

Neither in schooling nor in housing should it ... necessary to distribute over the entire nation ... burden that, in a properly organised communit... should be of direct incidence. Circumstances in whi... a man is unable to pay for the education of his ow... children, or to pay a fair rent for their decent housi... should be rare and exceptional. That they have be... allowed to become general is a sorry comment on o... social and industrial economy. Our opinion, repeated... expressed, is that our industrial system is in need o... thorough overhauling. It has, like our cities, gro... up haphazard, without foresight, system, or contr... and, like them, it should be thoroughly re-planne... That it will be, there can be but little doubt. Gove... ment control, hurriedly as it was assumed, and brie... (we may hope) as it will have been exercised, will ha... effected drastic reforms in industrial conditions. ... will have opened the eyes of employers and employ... to the immense advantages of a more string... economy of effort. Better buildings, immeasural... better equipped, should bring industrial efficiency t... higher general standard than it has yet known, w... the natural consequence of greater prosperity, shar... in which the workers will want better houses, and w... be able to pay for them. That, however, is the ultim... solution. In the meantime, healthy housing—a c... dition precedent to healthy productive activity—m... be provided by hook or by crook. Some form of St... aid appears to be absolutely necessary: to what exte... and in what form, should be the subject of exhaust... but not unduly protracted inquiry. An adequ... temporary loan to meet the national emergency see... essential; but the coming industrial renaissance sho... in time, liquidate the debt, and incidentally solve ... housing problem in so far as it relates to the arti... class.

* * * *

Architects, we are glad to see, are, through ... medium of newspapers, giving the public the benefi... their special acquaintance with the subject of hous... Thus Mr. Charles T. Ruthen reviews the situation ... considerable length in the columns of the "Cambr... Daily Leader." He brings into special promine... the desirability of finding immediate employment ... the 250,000 men who, he estimates, will return f... the war to resume various occupations in the build... trade. He expresses the conviction that for these m... employment will certainly not be ready unless spe... measures are taken beforehand to meet the difficu... and he does not favour the policy of slow demobil... tion, which, he says, would cost the nation appr... mately £3 a week for every man kept with the Colo... "Such an expenditure," he declares, "would ... inexcusable in the building trade, when by a ... foresight useful housing schemes could be carried ... and the men employed on constructive work of ... utmost national value, and not upon unprofitable ...

productive work." His conclusion is that State aid whether in the form of cheap money, cheap or free l, or grants in aid, does not appear to matter very ch—may be as reasonably applied to the prevention o the treatment of disease. Quite so; it is surely er to multiply healthy dwellings rather than pitals, sanatoria, and convalescent homes. This, the preparation for unemployment, involves a stion of foresight; and unfortunately we are among most myopic of nations.

* * * *

Let us cultivate our gardens." A literal applica- of the wise Frenchman's exhortation is being ocated with, it is to be feared, rather more zeal than retion. We are to grow vegetables in the public ks and in window-boxes. Market-garden cities earn a right to this honourable prefix, because their abitants will put in real spadework. Hampstead den Suburb has shown a lead by offering all its ant land for cultivation by Volunteers, and it is gested that work on the land should count as a l, whether or not the operation lends itself to a play he word. Squares are to have their useless shrubs ooted; and if, through this wild-cat scheme, they se their chief function of rendezvous for amatory s, the suburban market-gardener (who before now been compelled to go farther afield, or into the kruptcy court, on this account) will be glad to w by what magic the plague is stayed, short of ing poor pussy for the sake of her hide and tallow.

* * * *

Our parks and squares need not be pressed into the vice if all the other open spaces—the idle building s, unoccupied park lands, untilled farm acres, rail- reserves and margins—were put to the spade. there are very serious difficulties to be overcome. bour is scarce. Action is fettered by the curious ration of the land-laws. Again, those who lightly ime that building sites could be advantageously ivated do not seem to realise that these are ruined he process. A glimmering of this fact appears to e reached the writer of a letter in "The Times," o says that many owners of vacant building land uld be willing to let it for the period of the war at inal rents if it were possible to avoid the certain which they must, if they do let, sustain through ing to pay tenant-right compensation for tillages, ies of unexhausted manures, etc., when the land is en up. He might have extended his argument. what are the "values of unexhausted manures," " to the builder?—whose answer to that question be discreetly taken as read; but whose real oppor- ity for eloquence would come if he found himself in position of "a trustee who let, say, 20 acres of vacant ding land at a rent of £1 per acre, and at the end wo years had the land thrown on his hands again the obligation to pay £400 for tenant-right com- sation"! It is suggested that a short Act or Order Council should relieve the landowner of this burden, ing him free to let his land for temporary cultiva- , if he cares to endure its temporary ruin as a ding site.

* * * *

pparently the expert in acoustics has arrived: and is the only additional specialist whom the already army would cheerfully admit to their ranks. How works his charms is perhaps an esoteric mystery; some idea of his methods of procedure may be ered from a reference in the description, on p. 271 ast week's issue, of the plate illustrating the United tes Post Office and Court House, Denver. It is e stated that the acoustical work in connection the court rooms was carried out under the direc- of Professor Sabine, of Harvard, who should be begged to spread the New Learning. The Law Courts in the Strand, and some other buildings in this country that it would be invidious to particularise, clamour for his attention. His system seems to involve the cunning disposition of "acoustical felt," whatever that may be, which he disguises with artistic draperies. These may or may not be purely decorative. Probably when the complaint is diagnosed as repercussive reverberation, the draperies assist in absorbing the superfluous and confusing sounds. It would be interesting to know whether the professor is as skilful in prophylactics as he is in remedial treatment. Hitherto it has been held (perhaps ignorantly) that the acoustics of a building are pretty much a matter of luck—that, design he never so wisely, no architect can ensure that they shall be good. No doubt Professor Sabine, who has made an exhaustive study of the subject, is well posted on this point, and could state quite explicitly with respect to design and materials, "Lo, here and here thou ailest." At any rate, he affords an encouraging example of a university professor turning his knowledge to practical account—a phenomenon not less prodigious than the suppression of echoes.

INCREASE IN THE PRICE OF THE JOURNAL.

ONE of the inevitable consequences of the War has been the increased cost of everything. This has meant a gradual decline in the purchasing power of the sovereign, or, in other words, additional expenditure. The increase has affected both the producer and consumer, though it is to be feared that in respect of some things (food particularly) a larger burden has been unfairly thrown upon the consumer—*i.e.*, the general public. In certain businesses, however, the reverse has happened, and this is especially so in the case of newspapers and magazines. Our Journal offers a striking illustration of this fact. Under the ordinary conditions existing before the War it was regarded as an astonishing production for the price charged for it. To-day this price is out of all relation to existing conditions. To the Proprietors the chief additional expenditure has been in respect of paper, which, as everyone knows, has advanced in price to such an extent that all newspaper owners have had to consider the question of increasing the sale price of their productions. "The Times" and many other newspapers have already done this, and there is every likelihood that in the near future other journals will be compelled to follow suit. In the case of our own Journal, which makes such a feature of its illustrations, and requires a fine-quality paper for them, the increase has been especially marked—the paper, in fact, has doubled and trebled in price.

There is also the question of process blocks. At successive stages since the War began, and more particularly within the last month or two, the restriction in the supply of copper and zinc has caused an increase in the cost of photographic and line illustration blocks, which have recently been advanced 50 per cent. This, added to the huge increase in the price of paper, and a corresponding increase in the cost of printing and production, makes it impossible to keep the Journal at its old price. There has been, in fact, a great loss on this account. It has therefore been decided that, as from the beginning of next year, the price shall be raised to 4d., thus bringing it to the same level as that of the other architectural and building journals; and even this enhanced price will not cover the additional and constantly increasing costs of production. For years past we have been giving a fourpenny paper

for twopence, and, had the War not intervened, we should have continued to do so; but, for the reasons here set forth, a change becomes both proper and imperative, and we confidently look to our readers to extend to us, in the future, that generous and appreciative support which has always been so gratifying a feature in the conduct of this Journal.

OUR SPECIAL ISSUE.

FOLLOWING our regular practice, we shall publish at the end of this month a Special Issue. The chief feature of this issue will be a forty-page supplement dealing with the extensive Government Housing Scheme recently carried out at Well Hall, Eltham, Kent, in connection with Woolwich Arsenal. The scheme comprises the lay-out of a large estate and the erection of many hundreds of houses, grouped together in blocks and so disposed as to produce a most attractive colony, with ample gardens, green spaces, and fine old trees. A series of plates, from photographs and drawings, will be given, and there will be an introductory article describing the scheme in detail, from its inception down to its present state of development. The erection of munition works throughout the country has necessitated gigantic building activities during the past two years, and the question of providing proper housing accommodation in connection with the already existing works, and those projected for the future, gives to this Supplement a keen topical interest, while its essentially practical character will make it of real service to architects, builders, and others directly concerned with housing.

Another section of the issue will be devoted to the chief buildings of the year. There will also be a review of the architectural and building events of the year, and a roll of honour of those architects who have fallen in the War during the past twelve months, or have achieved distinction.

The issue will be published on Wednesday, December 27, price 6d.

HERE AND THERE.

ON this page is a note on Dartmoor Prison, with an illustration of the entrance gateway. Whatever the motive that has prompted its appearance (architects cannot be supposed to have any *personal* interest in the place), I suggest that it is wrongly titled. This is surely one of "The Home Doors of England," or, more exactly, "The Little Grey Home in the West"! The mention of Napoleon in connection with it recalls one of the many interesting episodes that arose out of the eager curiosity of the general public to catch a glimpse of the war-maker who had at last been overthrown. Prior to his transference to the "Northumberland," while yet in the Sound, Napoleon used to take exercise daily on the quarter-deck, or else appeared at the cabin windows, generally in conversation with Bertrand. The desire of the populace of Plymouth to satisfy their curiosity on these occasions was excessive, the guard boats being unable to prevent a vast concourse from closing near the ship, and once the confusion resulted in serious disaster. The seamen of the "Bellerophon" adopted a curious method to inform the anxious sightseers of the movements of the Emperor. They wrote in chalk on a board, which they exhibited, a short account of his different occupations: "At breakfast," "In the cabin with Captain Maitland," "Writing with his officers," "Going to dinner," "Coming upon deck"—just as we can imagine what might happen if, for instance, the All-Highest w safely on board at Westminster Bridge awaiting royal cousin's pleasure. To which we may append fact that whilst on the "Bellerophon" Napoleon wr to the Prince Regent the following letter: "Ro Highness,—Exposed to the factions which divide country, and to the enmity of the great Powers Europe, I have terminated my political career, an come like Themistocles to throw myself on the hos tality of the British people. I place myself under protection of their laws, which I claim from your Ro Highness, as the most powerful, the most constant, my enemies." No answer was vouchsafed, and October 13 the "Northumberland" arrived at Helena. Such a fate would well befit those who thr the present conflict on us.

UBIQUE

DARTMOOR AS AN INTERNMENT CAM

WHEN Napoleon was brought as a prisoner fr Rochefort to Plymouth on board the "Be rophon" his impression of England embra a distant prospect of Dartmoor, to which place ma of his unfortunate soldiers had been steadily drift for years, for the six third-rate prison ships ma tained at Plymouth were found inadequate when peace of Amiens was broken.

The influx of prisoners of war determined Admiralty Transport Board to apply to Mr. Tyrwh Lord Warden of the Stannaries, for a portion of moor on which to erect the place of internment, this gentleman obtained the consent of the Prince Wales to the transfer of the land. The services Daniel Alexander, a London architect, were requ tioned to design the works, and accordingly July, 1806, a variety of sites were examined estimates prepared for the erection of the war priso Alexander was an architect of perception, and app ciated the possibilities of the native granite building material, a course influenced by his pr lections for Piranesian themes, as the fragments of original building now in existence testify: the entra gateway is illustrated below. By May 24, 1809, first draft of 2,500 prisoners marched up f Plymouth and took possession.



DARTMOOR PRISON GATE. PRINCETOWN.

THE CATACLYSM—AND AFTER.*

BY CAPTAIN R. BURNS DICK, R.G.A., F.R.I.B.A.

N the present address, the third which I have been privileged to address to this Association as president during successive years, I shall confine myself ractically to one thought—the influence of present rents on the citizen's attitude towards the city eautiful.

In my last address I advocated the establishment of hat I called "Foresight Committees," and I still think uch might be accomplished in the meantime by each us so constituting himself, if only as a hobby in his are time. I must also reiterate the views I expressed to the tremendous effect that the new methods of arfare will undoubtedly have upon the actual form id construction of buildings and the laying out of sidential and industrial areas. They will be as far-aching as was the general adoption of new principles construction in the past, such as the dome and the inted arch or as steel construction in the present. I n convinced, though none of us are likely to see the articular "set" it will assume, that this is the dawn of distinctive an era in architecture and the arts as any the well-defined periods in history.

The Influence of War on Architecture.

The design and construction of habitations and the osition and arrangement of mediæval centres of life ere profoundly influenced by the prevailing methods f warfare, just as the succeeding period, the *soi-disant* enaissance, was markedly affected by the invention f artillery, which aided in destroying those conditions at gave rise to moated strongholds, castles on craggy minences, and the old walled cities of the Middle ges. After four or five centuries of freedom from irect military influence, so far as the life and growth f our towns and cities are concerned, I believe we are gain returning to a period when the effects of man's ghting propensities will once more show themselves in ur habitations and mode of life, and a new phase in rchitecture will evolve.

Now, while this means that the "Renaissance" has ractically run its course, I do not mean to suggest that will suddenly cease. It will simply be gradually rowded out as something tangible and decided and ore in conformity with the changing conditions takes old. In other words, the usual transition which eparates every period from that succeeding is now ommencing. Whilst I am emphasising the part that e developing science of warfare will play in this awning new era, I do not wish to suggest that that is e only factor in the change that is coming, though I elieve this war to be directly responsible for launching e new order of things; for I believe it will materially hange the citizen's outlook in a way nothing else could ave done.

One of the things to which the sordidness of the sur-oundings and atmosphere of industrial life may be rgely attributed is the inability of the people themelves to see that there is a solid and substantial return o be obtained from expenditure on spacious, healthy, nd beautiful surroundings in the centres where they ork and live. Its practical and remunerative value, o put it on no higher basis, has been clearly demon-rated by such men as the founder of Port Sunlight, here there is so much to delight the senses in the eautiful homes erected under his personal ægis, and here they and the character and happiness of the orkers are in such contrast to the habitations and lives f the artisans in the vast majority of our industrial ntres.

There are many far-seeing people who have been boriously working to remove this reproach on our national life, and the result is being seen in various directions in the springing up of more or less satisfactory garden suburbs, founded on practical lines and not on an unstable philanthropic basis. But it is disheartenningly slow work, because it is being practically forced by the few enlightened on an almost indifferent community. Until the people themselves realise the possibility of the infinitely increased happiness awaiting them in this direction it will never become general. The degree of beauty of a city is an indication of the enlightenment of its people. So long as the people remain indifferent to the effects of material environment on character so long will it be impossible to them to create an entirely beautiful city.

Nothing but a cataclysm would have the desired effect. Well, the cataclysm is here, and is in process of working that change in the perception and outlook of the people themselves, from which great things can confidently be looked for. Think what is taking place just now with us: something that has not occurred since the distant past, when people were fierce, migratory, and elementary in their civilisation: something that history will record as very wonderful and far-reaching in its results—in fact, something that ushered in as distinctive a period in the life and arts of our nation as any that can be recorded in our history. A whole nation has shaken itself free from the peaceful pursuits and traditions of centuries; its whole manhood that counts is for the first time in its history leaving its shores to stem the threatening flood of barbarism that was descending on it and its peaceful neighbours, is penetrating new worlds, and is coming under the influence of new friends and new conditions undreamt of. Three years ago the imagination would have reeled at the suggestion of half the truth of to-day.

What is it that causes the narrow, parochial, and unimaginative outlook from which the people in their lives and habitations suffer? It is that the majority are tied and fettered to their particular circumscribed world, in ignorance of a wider and nobler existence of thought and action, fostered in the insular belief that Britain leads the way in everything. We know, at any rate so far as the arts are concerned, that to cut ourselves off from contact with other peoples would not give us a leading position. I do not believe that in any phase of life a nation can isolate itself without deterioration. Is not our greatness largely due to the roving, restless spirit of the great pioneers of our race?

By the nature of things, that spirit has not been given play amongst our industrial millions, who are now more responsible than in the past for their own government; hence that narrowness of outlook which is reflected in our towns and cities. But can this wonderful thing that is happening leave things where they were? Can you take millions of men and women —the whole nation, in fact—and such a nation, nay, a world-scattered Empire—from the narrow daily round from which few can escape under ordinary conditions, train them to a new existence, where unsuspected traits of character reveal themselves; lead them into foreign countries, which they for the most part would never have known, there to come in contact with peoples of different ways and thoughts not inferior to their own, there to see new cities and new modes of life, that cannot fail to have some message for them; there in fierce contest to defend the right to develop in the way they think best for themselves?—I say, can you do this with the people, those who will one day dictate the policy of our civic life and mould the external appearances of our towns and cities, and expect them to remain unchanged, uninfluenced by the tremendous experiences through which they have passed as never before in our history? It is unthinkable. Remember, it is the whole manhood of the nation, not one class, but every social stratum and grade of which the nation consists, a whole nation's intelligence that is under

* Abstracted from a Presidential Address to the Northern Architectural Association.

treatment. It is not even confined to the manhood of the nation; women as never before are playing an heroic part in spheres that hitherto they have not entered, and their influence cannot fail to be very marked in the work of the future. It is so tremendous and overwhelming a thing that is upon us that few have any conception of what it portends. The subject is a vast and interesting one with many phases, but one which I cannot pursue further, and I will conclude these few immature thoughts by recommending those who have the leisure—and who remaining behind in the architectural world has not the leisure?—to devote some consideration to those inevitable changes that will be demanded in the future by the more thoughtful and newly enlightened citizen in every rank of life.

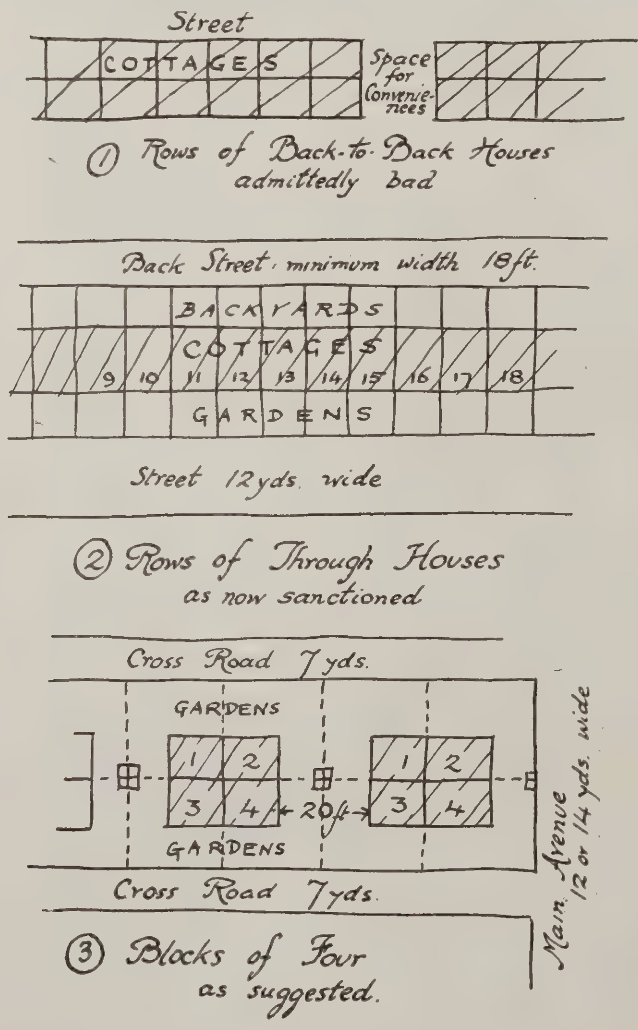
Much, I am sure, will be expected of our profession in the way of interpreting their aspirations and of giving them a worthy concrete expression; and I am convinced that the hitherto ill-fostered arts will, with a widened intelligence and outlook, take their proper place amongst the higher things that will be desired of life. A people gets no more nor no less than it deserves. Well, I believe our people will deserve better things, and that a higher standard of attainment will be demanded of architects than in the past, and only those of us who are worthy of it may hope for success in that Golden Age to come.

CORRESPONDENCE.

Housing Problem Proposals.

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS.—It would indeed be "incontinent" to suggest the removal of the ban on the back-to-back houses such as you must have in mind. The blocks of four are only to be seen in the north of England,



and did not deserve the ban of the Local Government Board. If the authority had insisted on a reasonable distance apart—say 20 feet minimum—we should have had quite as good and as well ventilated a cottage as those which are built in rows of twenty and more, and at a much cheaper rate. The cost of streets and wastage in same per house is much less, and economy in construction can be seen at a glance by comparison of the accompanying sketches.

ARCHITECT.

Referring to the above, a contributor writes: "I cannot understand why a house with front and back exposed should be considered better for health than one with front and side exposed. The ban, mistaken as it must have been, has led in my town (of less than 50,000 inhabitants) to official proposals to erect tenement dwellings for the housing of those families who, through force of circumstances—it may be of cash, number in family, etc.—need a small dwelling. I confidently assert that the best type of tenement dwelling yet devised does not equal that of one of a block of four, for price, comfort, sanitary and other amenities. It is true that the tenement economises use of land, but for towns like mine, for villages and townships, this ought not to be worth a thought. Yet the ban applies to all places within the jurisdiction of the Local Government Board. If I am not trespassing too much on your space I should like to point out that captains of industry like Sir William Lever, the Rowntrees, the Cadburys, and others who have given us the excellent model villages associated with their names, house but a small proportion of their workpeople in them; the great majority being yet housed in the tenement, terrace, or back-to-back houses of adjacent towns; and these undesirable places of habitation will become more and more overcrowded unless we immediately get cheaper land."

* * * *

In the course of a lecture on "Housing," which he delivered recently at Bingley (Yorks), Dr. Angus, medical officer for the district, expressed the opinion that the question of back-to-back houses had been dealt with rather summarily. Good back-to-back houses were not necessarily unsanitary. The larger the row of such houses the more likely they were to be unsanitary or unhealthy, but the smaller blocks he did not think were objectionable. Blocks of four, he thought, were as good as through houses. As the price of building was so great as to make it impossible to build through houses to rent at less than 5s. per week, he considered that it would be an advantage if some plan could be agreed upon for building houses more cheaply, and back-to-back houses could be built more cheaply than through houses. If it were possible, subject to certain alterations, he thought something was to be said for such buildings; 5s. per week was a pretty good rent to pay for certain people, and they might live healthy lives in back-to-back houses under proper conditions, and, therefore, there was no reason for such houses to be debarred altogether. It was probably a matter of opinion; but as one of the difficulties was to provide houses at a reasonable rent for working people, this was one way of meeting it.

THE PLATES.

House at Hest Bank, near Lancaster.

THIS is the architect's own house. The site is a remarkably beautiful one, overlooking Morecambe Bay and the distant Lakeland mountains. It also possesses the great advantage of a beautiful background of well-grown timber, screening it perfectly from north to east. Bricks rough-casted were



View from Garden.



Drawing Room.

MODERN DOMESTIC ARCHITECTURE (SERIES II.). XLV.—HEST BANK, NEAR LANCASTER.

E. PRENTICE MAWSON, ARCHITECT.



STUDENTS' DRAWINGS (SERIES II.). XL.—DESIGN FOR A FAÇADE FOR A FIRM OF FINE ART PUBLISHERS.

BY F. P. M. WOODHOUSE.



House at Thaxted, Essex.



House at Horsham, Surrey.

SMALL HOUSES OF THE LATE GEORGIAN PERIOD (SERIES II.)—XLI.

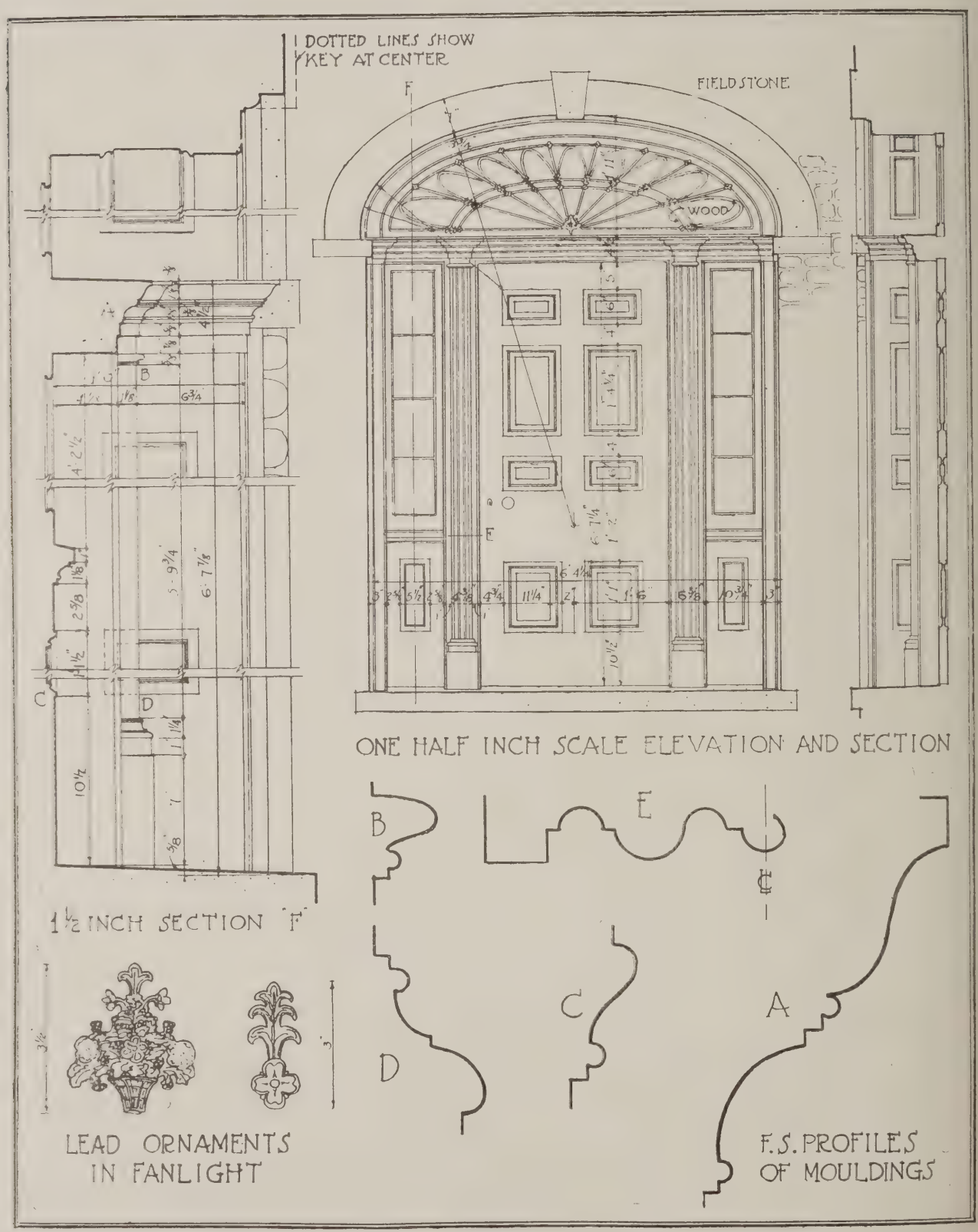


MEASURED DETAILS. IV. – CORNICE OF SHIRE HALL, CHELMSFORD. JOHN JOHNSON, ARCHITECT.

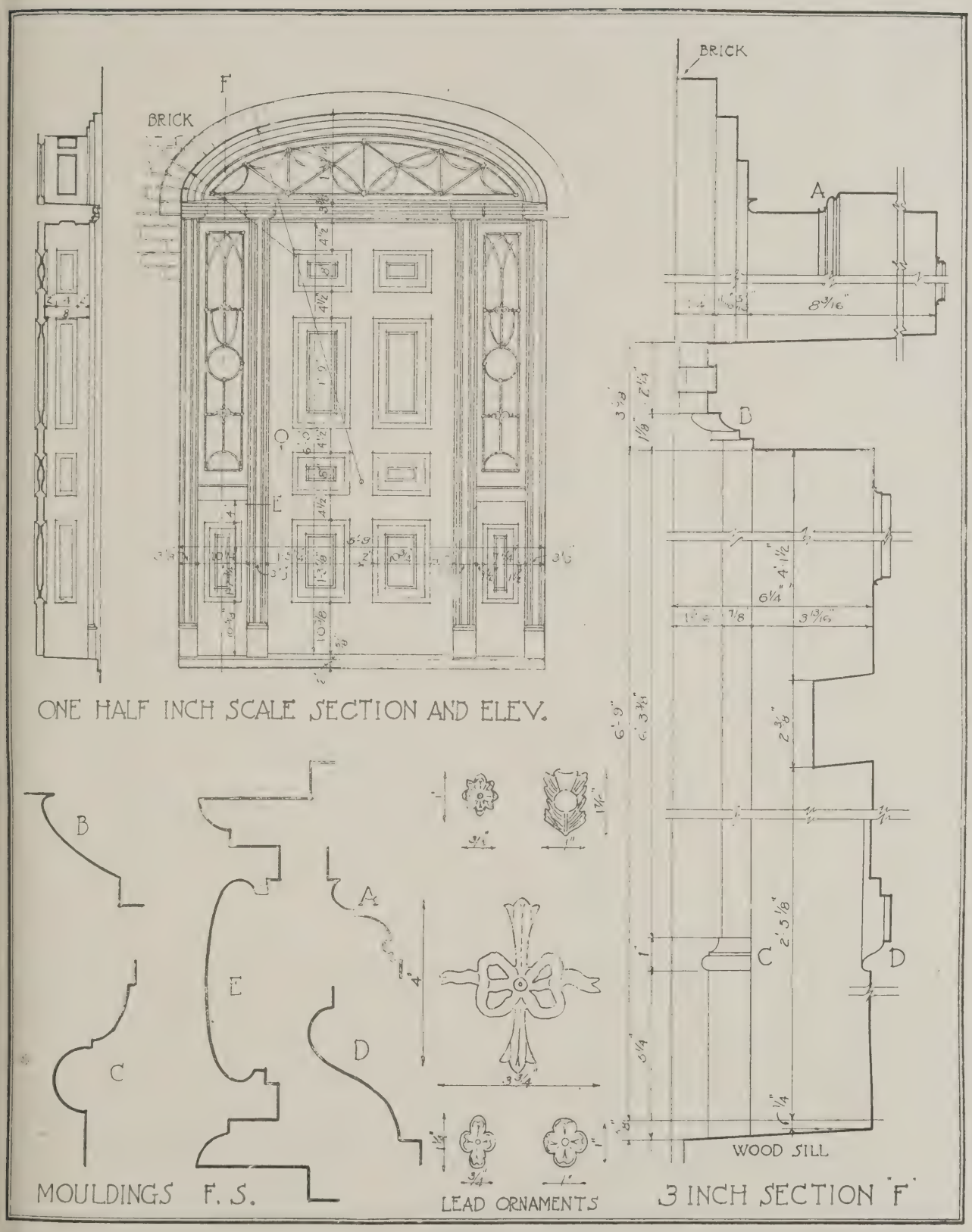
Supplement to "The Architects' and Builders' Journal," Wednesday, December 20, 1916.

Arch

A K B



Abel House, West Henrietta (1832).



ONE HALF INCH SCALE SECTION AND ELEV.

Briggs House, Rochester (18.7

used for the walling and green Elterwater slates for the roof and hangings over the bay window. The garden, which extends to about an acre, is not yet completed. Within the house oak has been exclusively used for floors, doors, and skirtings. All interior walls are rough finished and distempered, but a little decorative plasterwork has been used in the parlour. By a slip which we did not discover until after the plate had gone to press, the title "Hest Bank," is given to the house. Hest Bank, as above stated, is not the name of the house, but of the place. We regret the error.

A Street Façade.

This design for a façade for a firm of fine art publishers, by Mr. F. P. M. Woodhouse, is an example of fourth-year work in the Architectural Association School of Architecture. It is well composed, and shows a good sense of the value of plain wall space, with interest concentrated on a special feature—in this case the three windows on the first floor, held together by the arcade and the balcony railing. The shop front allows for ample glass area, and is pleasantly relieved by metalwork of refined character.

Two Late Georgian Houses.

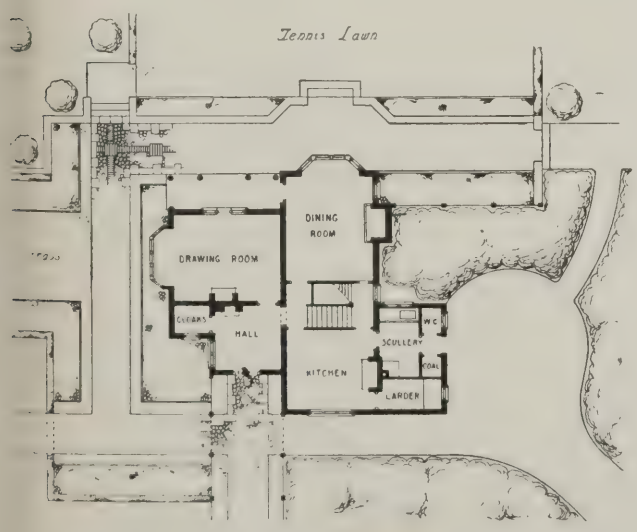
Both these houses show a use of smooth stucco characteristic of the period. The Thaxted example is, however, the happier of the two, for its doorway, with the wrought-iron handrailing, introduces just that concentration of interest which is needed with a generally plain treatment.

A Late Eighteenth-Century Cornice.

Chelmsford Shire Hall (the subject of an article in our issue for November 29) was built in 1792 from designs by John Johnson. Its main cornice, of which we now publish a detail, is a good example of late eighteenth-century work, and is worth study to-day, for it is not often that we see a well-designed cornice on a modern building: too often it lacks a due relation to the rest of the design, being sometimes too slight and sometimes (and more often) too heavy and coarse. The profile and the enrichment of this Cheltenham cornice are alike good.

Early Nineteenth-Century in Western New York.

The Georgian tradition of England had a happy reflex in the Colonial architecture of the States, and these two doorways show how excellent the tradition was. The illustrations, which we take from "Architecture," speak for themselves.



"HEST BANK," NEAR LANCASTER: GROUND-FLOOR PLAN.

THE MILITARY TROPHY IN ARCHITECTURAL DECORATION.

THE special feature of "The Architectural Review" for December is a lavishly illustrated article by Mr. A. E. Richardson, F.R.I.B.A., on "The Military Trophy in Architectural Decoration." It is a most comprehensive article, reviewing the whole theme from the earliest days down to the present. The illustrations comprise the trophies on Trajan's Column, some splendid French examples of the periods of the Louis, Napoleonic trophies, and examples from Blenheim Palace, Wellington's Tomb in St. Pauls' Cathedral, and the Wesleyan Hall (on which last we must suppose the military trophy bears the religious significance expressed by St. Paul). Regarding the modern use of the military trophy, for which there will be large occasion after the War, Mr. Richardson says: "Designers should bear in mind that before sketching ornament to enrich their buildings, it is necessary to analyse the parts that make up their subject: this in order to secure appropriateness, for the innumerable assemblage of elementary *motifs*, distinguished by the generic term 'ornament,' must be selected for the express purpose of the object or building which they are intended to embellish. Until this point is appreciated it is not possible to select or place elaborate and complex designs as applied ornamentation. Character, moreover, should be the determining factor. Once the selection is above reproach, the details must be considered and modified times without number to suit the architecture, all the details and modelling being in sympathetic consonance with the object of the building. It will be possible to introduce in such sculptural or painted decoration absolute, relative, or asymmetrical arrangements. The crush should be well balanced, the ornament so displayed that it is suited alike for a close point of view and to be seen at a distance. Different forms can be applied to panels of equal size, but relative scale must be maintained. It should also be kept in view that complexity of interest is but a development of the principle of simplicity, and under certain conditions is just as useful as the richly simple. There are other circumstances which experience indicates for the correct grouping of *motifs* to form a crush, but the same rules of design that apply to architecture are of equal value in the design of such minor attributes as carved and sculptured ornament. The principle is to reduce the interest to three prominent parts, of which one should dominate the whole arrangement, being subordinate to the vertical or horizontal centre as the case determines. In practice this rule is capable of many interpretations; there are no definite regulations to hamper the design, but the trained eye will immediately detect the weak spot. When the architect learns to approach his subject with the attitude of a painter, and delights in form like a sculptor, he will be in a better position to essay ornamental features. In time it is to be expected that the whole musical scale of symbolic *motifs* will form part of a student's equipment, and that the right index will be given to buildings, for until this subject is perfectly comprehended a repetition of egregious mistakes cannot be avoided."

Mr. Richardson is one of the few outstanding writers on architecture who, distinguishing scholarship from pedantry, expound clearly the principles that should inform practice.

Other articles in the December "Review" are: Rouen Cathedral, finely illustrated, and the Renaissance Steeples and Spires of London (the sixth and last article in this most interesting series). Current architecture is represented by the latest of London theatres—the St. Martin's Theatre, designed by Mr. W. G. R. Sprague.

CHANNEL TUNNEL PROJECTS.

THAT a tunnel under the Channel, connecting this country directly with France, will be constructed at some time in the future—possibly in the near future—is generally agreed, and though no definite scheme has been put forward officially it is interesting to show what may be done. The problem is dealt with at length by a writer in "Le Génie Civil," whose article is translated by the "Engineering Record" of New York, from which the following particulars are taken:—

History of the Scheme.

The scheme for establishing a physical connection between England and France across the Straits of Dover is an old one, a French engineer having suggested it to Napoleon as early as 1802. Serious proposals for a feasible project, however, began with the French engineer, Thomé de Gamond. Passing over Gamond's early proposals, which date back to 1834 and include a sheet-iron tube sunk on the bottom, a £16,000,000 bridge, two five-mile jetties between the ends of which a ferry-boat would operate, a causeway with three drawbridges, and his first tunnel scheme proposed in 1856, the first plan which formed the basis of definite action was put forward by him in 1866. An Anglo-French committee of six was constituted in 1869 to carry out this plan, and although most of its original members are dead the committee is still in existence, with full authority. After the war of 1870 the plans were modified by omitting the island station which was proposed to be constructed in mid-Channel, on the Varne shoal, this being considered too vulnerable to an enemy fleet.

At that time it was estimated that the tunnel could be completed in four or five years at a cost of £5,000,000. It was the intention to operate trains with compressed air locomotives, and Gamond had worked out a scheme for compressing the air required by using the rise and fall of the tides. A French company was created by an Act of August 2, 1875, with a ninety-nine-year franchise to construct the French half of the tunnel and co-operate with a similar British company in carrying out the plans to be finally adopted by the commission above referred to. This company raised and spent more than £80,000 on shafts, soundings and borings. It constructed a trial tunnel 7 ft. in diameter, 6,033 ft. long, from the French shore. Its construction plant and underground workings have been maintained in good condition, and the company is ready to go on with the completion of the project.

The British meanwhile had organised in 1872 the Channel Tunnel Company, which was merged by an Act of July 16, 1874, into the South-Eastern Railway Company. This company co-operated with the French company and spent £40,000 on exploration. It was succeeded within a short time by the Submarine Railway Company, which drove two headings from the English shore, one 2,641 ft. and the other 6,075 ft. long. The shafts from which these tunnels were driven were sunk in the Shakespeare Cliff near Dover. This company was later merged into the Channel Tunnel Company, Ltd., which has maintained the early construction work and plant. Its tunnels have been pumped for a long period, and have shown a remarkably small quantity of seepage.

In 1875 Gamond died, believing that his project was to be put into immediate execution. However, popular outcry, led by London newspapers, definitely put a stop to continuation of the work in 1882. The Conservative party succeeded in defeating motions made to resume construction in 1883, 1887, and 1906. It is interesting to note that at the last-mentioned date the French proposed, as a concession to England, to build a long section of the tunnel approach as an elevated railroad along the French coast, so that the British fleet could readily destroy it on occasion!

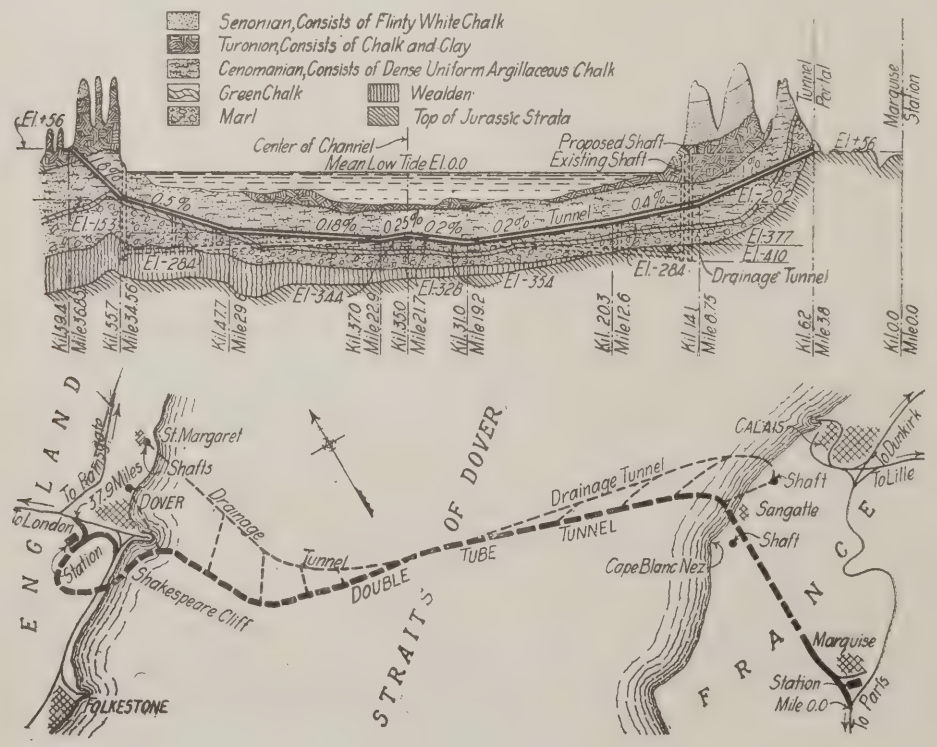
In spite of the opposition in England, the project has never been lost sight of in France, and the plans have been revised and kept up to date until the present project, in many of its essential details, is practically a new one. Albert Sartiaux, chief engineer of the Compagnie du Chemin de Fer du Nord, and for some time a director of the French Construction Company, the Société Française du Chemin de Fer Sous-Marin, has been in charge of the engineering work and is responsible for the present plans.

The Geological Strata.

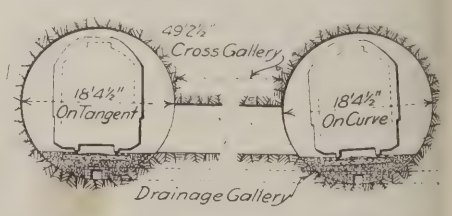
Geological surveys of the Channel, confirmed by the explorations already made, indicate that the proposed tunnel will meet nothing resembling the tilted and faulted strata which caused such great difficulty in the construction of the Simplon Tunnel and which resulted in the temporary loss of an entire heading while the Astoria Gas Tunnel under the East River in New York City was being built. The theory commonly accepted among geologists is that an isthmus connected France and England during the Miocene period, and that subsequent settlement has caused the formation of a shallow strait. The indications are that this settlement was very gradual, and was not attended by any faulting or folding. The strata found on both sides of the Channel correspond very closely in thickness, position, and material. At the top is the well-known white chalk in which flint occurs, underlain by a stratum of chalk and clay. Beneath this in turn is a bed 200 ft. thick of compact argillaceous chalk which is very uniform and dense. It is extensively quarried for the manufacture of cement, and corresponds to the grey chalk found at Rouen. This material, while it does not require timbering, is rather easy to excavate and is nearly watertight. Soundings indicate that it maintains a uniform thickness for the entire distance under the Channel, and lies approximately between the elevations indicated on the accompanying illustration. The latest plans contemplate a thorough exploration of this bed from the drainage drifts, which will be constructed first, and a vertical alignment of the tunnel which will not require leaving this stratum except at the ends. The outcrop of this bed on both shores has determined the position of the line and of the junction stations shown on the plan.

Construction of Tunnels.

The present plans call for the construction of twin single-track tunnels 18 ft. 4½ ins. in diameter and 67 ft. 7 ins. centre to centre. The total length of the line from the junction with the Paris-Calais road to that with the railroad from London to Dover will be a little more than thirty-seven miles of double track, about thirty-two miles of which will be in tunnel. The position on the French side, which is more definitely settled than that on the British, contemplates a maximum grade of 1 per cent., while a grade of 1.8 per cent.



PLAN AND SECTION OF PROPOSED CHANNEL TUNNEL.



SECTION OF TWIN TUBES.

is shown on the present plans at the British end. A short hump about four miles in length is planned at the middle of the Channel, from each end of which water will be taken through drainage tunnels to pumping stations at shafts sunk on shore on either side. The two drainage tunnels will be connected with the main tunnels by cross-drifts dividing the latter into excavation sections four or five miles in length, which can be constructed independently of each other.

From experience with the trial drifts constructed, the seepage in the main tunnels is not expected to exceed eight gallons per minute per 100 lin. ft. of single-track tunnel, or 26,500 gallons per minute for the entire length of both tubes, which is well below the quantity of water pumped in many of the deep mines of Europe.

The French half of the work is naturally divided into two sections, the first of which includes the station and approach and the first four miles and a half of tunnel, which can be drained through the existing shaft. The construction plans contemplate building the remainder of the French section by first driving the drainage tunnel, from which three cross-tunnels will be excavated to the line of the main tunnels.

Tunnelling machines modelled on that invented by Colonel Beaumont and thoroughly tried out on the British side will be used to drive both the main tunnels and the 10 ft. drainage tunnels. It is expected from the past performance of this machine that a progress of 3.7 miles per year can be made for each machine in use, provided the soil can be disposed of. With all the headings working, this would require the transportation of 4,400 tons of material daily through the section of drainage tunnel next the shaft. The French engineers expect to accomplish this with an electric railway of 2ft. gauge (presumably double track), over which 100 train movements a day in each direction will be necessary. This estimate also allows for transporting in and out 1,200 workmen daily. A very large shaft will be necessary to accommodate hoisting equipment capable of raising material to the surface at this rate. Experience indicates that the shaft on the French side will be difficult to sink, and it is expected that the pneumatic process, grouting or freezing, or perhaps a combination of all three, will be required.

Based on this estimate of progress in the headings, it would take three years to drive the drainage gallery to the centre of the Channel. In the meantime work would have started, at some of the four points of attack provided for, on the main tunnels. It is expected that by this method the entire work can be completed in four years and a half or five years. The work on the British half of the tubes will be carried out on much the same lines, although the construction scheme for this half of the work has not yet been gone into so thoroughly as that for the French side.

Cost and Revenue.

Although it is estimated that the cost of the project would exceed £400,000 per mile, a figure not approached by any other tunnel in Europe, it is believed that the operating revenue to be derived from the enterprise would make it a profitable one from the outset. If terminal facilities could be provided to load them, it would be possible to move 144 troop trains a day in one direction. If 1,600-ton goods trains were hauled, a possible volume of 225,000 tons a day could be handled on the same basis. As the most recent estimate of Sir Douglas Fox places the cost of the English half of the tunnel at more than £6,000,000, and as Albert Sartiaux estimates that the French half can be built for about the same amount, the net annual revenue from such maximum traffic at prevailing rates would represent a large fraction of this estimate for the entire cost of the project.

To be on the safe side, M. Sartiaux has supposed that the entire construction cost will amount to £16,000,000, and has made a conservative estimate of the proportion of the present goods and passenger traffic across the Channel which would be diverted to the new line. On this basis 440 to 550-ton trains would be the standard for goods traffic, and fifteen goods and passenger trains would run each day in each direction. The net revenue on this traffic would yield 5 to 7 per cent. on the sum invested.

The tunnel, if constructed, would have a far-reaching effect in cementing French and English commercial relations. It would reduce by five hours and a half the best running time that can be done at present. The most important saving, however, would probably prove to be the elimination of the double transfer from rail to water and back to rail, which is necessary at present, and a saving in the time required for the transit of goods shipments probably much greater than the saving in passenger traffic.

THE WORK AND THE COMMERCE OF TO-MORROW.*

BY F. E. WENTWORTH-SHIELDS, M.Inst.C.E.

(*Concluded from page* 266, *No.* 1,144.)

Considering next the relations between the workman and his employer, even if the workman is scientifically taught his trade, in order that he shall increase his efficiency to the utmost, it is necessary to gain his goodwill, and this, perhaps, is the most difficult problem of all. A paper full of interest on this subject was read by Sir William Lever at Manchester a month ago. Its author is well known for the large amount of time and thought and money he has spent on the welfare of his workmen, and his remarks are therefore worthy of special attention. He points out that the old idea that labour is merely the paid tool of capital has got to go, and that the attitude of obstinacy and distrust shown by working men towards their employers will not be changed merely by giving them higher wages and better conditions of life. They have shown that under certain circumstances they are capable of high ideals and of great self-sacrifice. This has been remarkably evident in the way they have fought for their country, although many have not as yet applied this spirit of self-sacrifice to the ordinary work of commercial production. This he thinks is largely due to the fact that they have been looked upon as machines rather than as human beings. The arrangement under which all profits or losses go to capital is not a healthy one, and ignores the psychology of the workman. He suggests that in every industrial concern there ought to be a ladder from the humblest position to a seat on the board of management, and that both profits and losses should be fairly divided. On both sides there must be give and take. Capital must not expect labour to give up trade unions and the privilege of grumbling for better conditions, and labour must not expect capital to give up control and discipline. In a word, he advocates co-partnership, and deplores the fact that trade unions have opposed it. He regards it, not merely as a system for producing high wages and large profits, but as a spirit which will humanise the relations between man and man, and which by combining the democratic with the individualistic attributes of human nature will result, not only in higher total earnings but in greater efficiency, happier life, and improved mental conditions.

Banking Facilities.

The provision of capital for new undertakings is a matter in which, perhaps, a few of our members can assist, but, none the less, it is of very great importance to us, since the engineer and architect, generally speaking, control its expenditure, and I need make no apology for alluding to it here. It is far from satisfactory to learn that out of £250,000,000 subscribed in this country to capital issues in 1913, less than £50,000,000 was invested at home. During the war, however, an extraordinary number of new factories have been started, and after it is over we shall probably find that the relative importance of our various industries will have altered somewhat, and we shall be called upon to produce many articles for which we have hitherto been dependent upon foreign countries, and also to sell to new customers. Whether as a nation we shall be able to meet this demand will depend to a large extent upon what facilities can be given for the finding of capital for new ventures. Such capital will be required, not only for starting new factories and business concerns, but also for financing sales to possible customers like the Russians and the Italians, who are accustomed to ask for long periods of credit. The facilities offered by our British banks in the way of providing money for such undertakings have been severely criticised by many authorities, and notably by Messrs. Farrow and Crotch in a little book which they have recently published, called "The Coming Trade War." They compare our modern banks very unfavourably with the so-called German system, and again with the Scotch banks of the eighteenth century, which, they say, did so much to assist the extraordinary commercial and industrial development of that country two hundred years ago. The authors point out that we need a banking system which shall favour, not the richest consumers but the largest employers of labour, which, by giving cash discounts under suitable safeguards, shall enable our merchants and manufacturers to sell in countries where long credit is required, and which shall further assist them with all kinds of information.

In response to such criticism, the Board of Trade has appointed a strong committee, with Lord Farringdon as chairman, to report on the matter, and they have recommended that a "British Trade Bank" be established under Royal Charter, with a capital of £10,000,000. This bank is not to rival, but to supplement, the work of our existing banks, and is therefore not to accept deposits at call or short notice. On the other hand, it is to issue credits to British merchants and manufacturers at home and abroad, even accepting risks, when satisfied that the expenditure is likely to be productive. It is to provide capital for extension of plant, or amalgamation of works, or carrying out contracts. It will provide cash in cases where sales are made to foreign buyers who want long credit. Best of all, it is to organise an information bureau, which will collect facts about the status of foreign

* Presidential Address to the Concrete Institute.

firms, new business openings, etc., and which will examine industrial projects. This information will be at the disposal, not only of its customers, but also of Chambers of Commerce and other banks. While independent of Government control, it is to receive recognition and assistance from all British Embassies and Legations, and to act as agent to the Government in cases where they decide to assist certain "key" industries, which must have public funds to bring them into existence.

Even those who are not financial experts can see a good many difficulties in successfully organising such an institution, but it seems to be agreed that a bank to which the assistance of trade will be a primary object, and the making of safe dividends secondary, is a national need and will make for national economy.

Industrial Consuls.

It will be noticed that the report of Lord Farringdon's Committee, which has just been quoted, develops a suggestion, which has been made elsewhere, that instead of depending so largely, as we do at present, on our Consular service for information about foreign markets, we should establish a similar service organised by and for British men of business. It is certainly notorious that our Consular staff in the past has consisted largely of men who, whatever their other qualifications may be, know little or nothing of commerce. It is also notorious that many of them were unsalaried foreigners, and therefore men without any inducement to encourage British trade. It has been stated that before the war, out of 653 unsalaried Consular representatives 268, or 45 per cent., were foreigners, and that these included forty-four Germans and Austrians. It would certainly seem that, whether employed by the Government or by such an institution as the British Trade Bank, such representatives should be British-born and men with good business training. In this connection it is interesting to note what has been done by the American Bureau of Foreign and Domestic Commerce, a description of which was recently given in an American magazine by Mr. W. C. Redfield, the Secretary of Commerce to the United States. He tells how the Bureau recently secured to a big smelting and refining company the business of smelting Bolivian tin ores which hitherto had all been treated in Europe. It also succeeded in getting the Spanish tax on American coal withdrawn, with the result that exports to Spain were largely increased. Further, it secured contracts for American firms in Norway, Rumania, and Africa. It has ten commercial attachés in various capitals, all of whom are trained business men, and who speak the language of the country in which they live, and who spend their whole time in building up American trade. It also engages a large staff of travellers, who specialise in certain industries. Before setting out on their journeys, these travellers consult the principals of the industry they are to represent as to what they can supply, and while on their journey they communicate constantly with them through the Bureau, obtain samples of what is needed abroad, learn the special difficulties that have to be encountered, find out the methods of their competitors, and on their return see the manufacturers at home and give to them all the information they have acquired. It is interesting to note, too, that this Bureau of Commerce not only publishes frequent up-to-date reports, but also owns and manages the American Bureau of Standards, whose magnificent work in industrial research is more or less known to us.

I do not wish to suggest that British manufacturers have been wholly idle in this matter. For instance, the Associated Portland Cement Manufacturers and the British Portland Cement Manufacturers, which together provide about 95 per cent. of the total British export of cement (which in 1913 amounted to 750,000 tons), maintain permanently a representative in South America, where before the war a large market was keenly competed for with Germany. The representative in question is a trained chemist and works manager and good linguist. The same firms also send representatives to Australasia and India, and have organised works in British Columbia, Mexico, and South Africa. Such enterprise is highly commendable, but it is evident that only very large and wealthy firms can manage to keep such an efficient travelling staff, and that if British industries generally are to be enabled to sell their goods steadily new markets must be found for them by some organisation encouraged and assisted by the Government. It must be remembered that the Government is to all intents and purposes a third partner in every business concern. Since the war excess profits have been taxed to the extent of 60 per cent., and even before the war incomes which were mostly derived from commercial profits were heavily taxed. Probably such taxation is just, but in return the Government should see to it that no essential industry lacks capital or a market for its productions.

The New Ideals.

A glance at our past year's work will illustrate our interest in economy in the best sense. We have had six general meetings, at which stimulating and thoughtful papers have been read and discussed. Our Standing and Joint Committees have met regularly to solve such problems as the promotion of research work, the establishment of right relations between architect and engineer, the standardisation of measurements, advice about the methods of executing concrete work, and the correct interpretation of the laws relating to steel-framed buildings. All these matters represent an endeavour to introduce economy in building, and when it is remembered that building is one of our largest industries, and that one-tenth part of the nation's industrial output consists of buildings and engineering structures, it will be realised how important is the work which lies before a society like ours.

Again, we have seen that the Great War has taught us that to be fruitful our economy must include and be inspired by the spirit of co-operation. Our individualism has been a source of immense national strength to us, and I hope we shall never lose it. But we must also cultivate the spirit of mutual service between the State and the civilian, between employer and workman, between one profession and another. Among the members of professions we must include the manufacturers and traders, the captains of industry, from whom we expect great things at this time. The learned professions have been inclined in the past to look down on such men because, they said, their first object was to make profits. But why should it be their first object to make profits? Ruskin long ago pointed out that the merchant's first object should be to provide for his country, and that he should be ready, like a soldier, to die in the attempt to carry out this object if needs be. This may sound too good to be true, but I venture to say that it is right, and that we must expect all our merchants and manufacturers to take this view. The best of them have always done so. Our country will not keep the high place she has regained among the nations unless they do.

The war has had cruel and terrible results. There is not one of us who has not felt the sting of its destructive power. But, strangely enough, this fearful thing has opened our eyes, and has made us see many truths which had become dim. It has shown us a vision of what England and the British Empire can and must attain, and every man and every society of men must bear its part in realising the new ideal. Among those who will help to realise it will, I doubt not, be numbered the Concrete Institute.

FOR KING AND COUNTRY.

Mr. Henry Eustace Adams.

We regret to learn that Mr. Henry Eustace Adams, the younger son of the late Mr. Robert Adams, and a member of the well-known firm of inventors and engineers, of Emerald Street, E.C., has recently died at the base hospital in France, of wounds received in action early in July, on the Somme. Mr. H. E. Adams joined the Rifle Brigade in September, 1914, after several unsuccessful applications to the Royal Engineers and the Royal Artillery, whose ranks were at that time filled. While at the front he was temporarily attached to the Royal Engineers, and on account of his valuable work, which included surveys and plans of certain sectors for headquarters, the authorities had decided that he should be transferred to that corps, for which it was found he had very special qualifications and was strongly recommended. He was thirty-eight years of age, greatly esteemed among his friends for his fine personal qualities, a man of uncommon talents, a very versatile and thorough scholar, greatly devoted to the study of the mathematical sciences, in which he was brilliantly informed, and was no less thorough in the study of philology, both Classical and Oriental. He acted as French interpreter for his battalion.

Mr. H. E. Adams was educated at the City of London School and London University, and was apprenticed to a well-known firm of city architects. He entered for and passed the Intermediate Examina-



THE LATE MR. H. E. ADAMS.

tion of the Royal Institute of British Architects, and subsequently, at his father's desire, he entered his business, where his assistance in this direction was greatly valued. It may be added that as an architectural and engineering draughtsman he possessed outstanding abilities.

He remained for fifteen weeks at the base hospital, where his fortitude and patience during a crucial experience won for him the warm regard and admiration of the officers and staff, whose devoted attentions deserve to be recorded.

Recently a letter has been received from one of his comrades which throws some new light on the circumstances which ultimately led to his death:—"It can honestly be said that he sacrificed his own life with a thought of saving others. We had been carrying bombs, etc., up to the front line, a small party of about eight, and we succeeded in getting through a terrible barrage safely to our destination. We were told to take shelter in the front line for a time. It was then he got hit by a piece of shrapnel. As things did not get any better we were told to make our way back, and, of course, take Mr. Adams with us, but he absolutely refused to let us do so, saying he did not want to jeopardise our young lives in attempting to save his. We were all so sorry to leave him, for he was highly respected by us all, and he was always looked upon as our adviser owing to his superior knowledge on almost everything possible to think of. We all appreciated him very much, as we knew he had made a far greater sacrifice than any of us in coming up to fight for the great cause; also, he was always most anxious to do anything in his power for our comfort."

It has since been ascertained that Mr. Adams remained under a terrible shell fire for about sixteen hours before he was removed.

Remembrance.

At Wimereux a winding way doth find
At last a little hilltop's hallowed bound
All walled about, whence you may list the sound
Of an eternal requiem on the wind,
And look afar with vision unconfined
On sea, and distant cliffs with glory crowned,
Where England looks toward this holy ground
Of those who sailed that deep to sacrifice.
With reverence come and enter at the gate
Through which were borne our well-beloved dead
Unto their rest in Honour's dear estate,
Beneath the Calvary and the arms outspread.
Here rank on rank they lie, and side by side,
Companions of their Captain crucified.

S. J. A.

SOCIETIES AND INSTITUTIONS.

Architectural Association.

A meeting of the Architectural Association was held at No. 37, Great Smith Street, Westminster, on Monday, December 4, the president, Mr. A. G. R. Mackenzie, occupying the chair. The following elections to membership were announced: Messrs. P. R. Udwadia, A. H. Basto, Rowland Tillett, C. E. Cat, C. M. Master, E. B. Morley. The chairman announced the Council's nominations for hon. treasurer and ordinary member of Council, to fill the present vacancies: Hon. treasurer, Mr. Horace Farquharson; ordinary member of Council, Mr. G. Gilbert Scott. As there were no further nominations forthcoming they were declared elected. The meeting then terminated.

Institute of the Architects of Ireland.

The annual general meeting of the Royal Institute of the Architects of Ireland was held at 31, South Frederick Street, Dublin. The president, Mr. R. Caulfeild Orpen, R.H.A., presided. The statement of accounts showed the Institute in a strong financial position. Mr. W. Kaye-Perry, B.E., F.R.I.B.A., was elected president for the ensuing three years, and Mr. C. A. Orpen, B.E., F.R.I.B.A., as vice-president. The following were elected on the Council for the year 1917: H. Allberry, R. H. Byrne, F. G. Hicks, A. Hill, A. G. C. Millar, G. L. O'Connor, W. A. Scott, G. P. Sheridan, J. H. Webb. Messrs. Edwin Bradbury and L. B. H. Deane were elected hon. auditors. Mr. Geo. O'Neill was elected a member of the Institute.

Wakefield and District Master Builders' Association.

The annual meeting of this Association was held at the Bull Hotel, Mr. T. Craggs president) being in the chair. Mr. Craggs proposed the election of Mr. Sam Hall as president for the ensuing year. Mr. T. Lee, in seconding the proposition, referred to the good work done by Mr. Hall as a member of the Yorkshire Executive Council of Building Trade Employers. The resolution was unanimously carried. In taking the chair Mr. Hall warmly thanked the members for his election. The other officers were elected as follows: Vice-presidents, Messrs. T. Craggs, G. Crook, A. Turner, and H. B. Steel; committee, Messrs. T. Lee, J. W. Bramham, J. Pashley, A. C. Green, J. T. Binks, G. Blakey, H. Blackburn, H. Bastow, F. Judge, W. Newton, and J. C. Turner; representatives on Yorkshire Federation Council, the President, Messrs. J. W. Bramham, A. Turner, and A. C. Green; secretary, Mr. J. Beaumont.

Ipswich Master Builders' Association.

At a special meeting of the members of the above, held at the Crown and Anchor Hotel, the president (Mr. Charles Green) announced that he had a pleasant duty to perform—to present to their treasurer and secretary (Mr. Charles Borrett) a framed address, signed by all the members of the Association, on the occasion of his fiftieth year of married life. He had been their treasurer and secretary for many years, and had been a member of the Association since its formation.

Architects' and Surveyors' Approved Society.

The fifth annual general meeting of the above Society was held at the Surveyors' Institution on Tuesday, December 5, Mr. A. G. R. Mackenzie, president of the Architectural Association, occupying the chair, in the absence of the president of the Society, Mr. Ernest Newton, P.R.I.B.A. Mr. F. R. Yerbury, the secretary, presented the report of the committee for the year ended June 30 last. This showed that the membership of the Society had steadily increased during the year, and that the general success of the Society experienced in previous years had been maintained. Fifty-nine sickness claims and thirty-one maternity claims were paid during the year. The Society had obtained sanatoria benefit for three members, and had arranged for consultation with a specialist for two other members. About 1,000 members were serving in the Army. A number had been discharged on account of wounds and illness, and it had been the practice of the Society to do its utmost to see that they obtained every benefit due to them.

We are glad to note the progressive prosperity of this exceedingly useful society, and we hope to be able to record, in the near future, the very considerable expansion of its operations.

OBITUARY.

Mr. F. S. Chesterton, F.S.I., M.S.A.

Mr. Frank Sydney Chesterton, whose death we regret to announce, was a member of the firm of Messrs. Chesterton and Sons, of Cheapside, London, E.C. He was born in 1876, and educated at St. Paul's School. He won the competition for a design for a memorial to Old Paulines who fell in the South African War, and was the architect of many houses, flats, and business premises in Kensington, where he virtually rebuilt Hornton Street. In collaboration with Mr. John Duke Coleridge he built Hornton Court, comprising about forty-five separate flats, besides business premises. For so comparatively young a man, he had done an enormous amount of work.

Mr. John Hebb, F.R.I.B.A. (Retired).

Mr. John Hebb, who has died at Brighton at the age of eighty-three, had served as a member of the Literature Standing Committee of the R.I.B.A., of which he became an Associate in 1868 and a Fellow in 1882, retiring in 1902, a year after his retirement from the post of chief assistant architect to the London County Council. At one time he was a frequent contributor to this Journal.

Mr. J. L. Jenkins.

The late Mr. J. L. Jenkins, Maesteg, whose death occurred recently, was noted in the Mid-Glamorgan districts for his excellent work as a stone carver. Many examples of his skill are to be seen on the principal buildings at Bridgend and Maesteg. It was he who did the carving on the London City and Midland and the London and Provincial Banks at Bridgend, the Dunraven Hotel, Bridgend, and the new Town Hall at Maesteg. One of the most recent works he completed was a life-size medallion of Mr. D. Lloyd George, the Prime Minister, which was modelled in clay and cast in plaster of Paris.

Mr. Alfred Corby.

Mr. Alfred Corby, who died at the age of seventy-two, at his residence, 33, Goldington Road, Bedford, was the only son of Mr. John Corby, who about 1850 established at Bedford the well-known business of John Corby and Son, builders and contractors. Upon his father's death he became principal of the firm, and until the last retained his interest in the business, though leaving the active management in the hands of his only son, Mr. A. J. Corby, during the last ten years. During an honoured business career he carried out considerable contracts for public authorities in town and country, and for various Government Departments, besides erecting many business premises and private residences in the town and neighbourhood, during the period of Bedford's greatest development, about two decades ago. For some years he was president of the Master Builders' Association.

THE SCOTTISH TENEMENT QUESTION.

At a general meeting of the Governors of George Heriot's Hospital, Edinburgh, Sir Andrew McDonald, in presenting a report on the Scottish National Congress on Town Planning held recently in Glasgow, expressed his regret at the reception that was given to Sir John Lindsay's suggestion about tenements. The mere word, he said, created a hullabaloo, which it was impossible to understand when it was remembered that Sir John Lindsay was as anxious as anyone present at the congress to improve the housing of the people. There was nothing wrong with tenements if they were not built in closes, if they had plenty of fresh air round about them, and if, above all, they were careful to limit the number of tenants in each tenement. The whole question was as to the kind of tenements they approved of. Most of the delegates were from England, and with them it was nothing but cottages, cottages. They had been able to get a Scottish committee appointed, and he hoped they would be able to get as much money as possible. One question which was asked at the congress was, where was the money to come from? They were proposing to ask for £20,000,000 for housing the people, although some of the delegates from the South thought the sum was insufficient even for England, and that Scotland would have to look after herself. He would not grudge £20,000,000 for the amelioration of the condition of the lower strata of the people, but they had other important things in hand just now. However that might be, the housing problem was pressing in Edinburgh, and the Trust had about seventy-five acres in Gorgie on which they might make a start.

NEWS ITEMS.

Proposal to Build a New North Bridge, Hull.

At a meeting of the Hull Corporation Bridges Committee, Councillor T. Morrill gave notice that at the next meeting he would raise the question of the construction of a new North Bridge. He suggested that a scheme ought to be approved in order that it might be proceeded with as soon after the war as was practicable.

Sanatoria and Damp.

Consumption is a prevalent disease in Great Britain and its seriousness was officially realised when the Government undertook to construct sanatoria throughout the country. Whilst it is essential that patients should live in the open air, it is equally necessary that they should be protected from damp atmospheres. These facts were realised in the case of the Hawkmoor Sanatorium, where precaution against dampness was taken by using Pudloed cement, with quite satisfactory results.

Drawings of Indian Architecture.

A series of drawings of some of the finest examples of Indian architecture of about the fifteenth and sixteenth centuries, measured and drawn during his study tours by Mr. E. C. Henriques, Government of India Scholar in Architecture, will be on view at the R.I.B.A., 9, Conduit Street, W., from December 18-31. The drawings illustrate the three principal styles of Saracenic architecture in India identified with the Mogul Dynasty at Agra, in the north; the Ahmed-shai Dynasty at Ahmedabad and Champanir, in the west; and the Adilshai Dynasty at Bijapur, in the south. Some Hindoo examples at Rajputana will also be included.

Changes of Address.

Messrs. Simplex Concrete Piles, Ltd., have removed to 125, Palace Chambers, Westminster, the Government having commandeered their premises in Caxton House.

On and after the 15th inst. the address of Messrs. MacAndrews and Forbes, Ltd., will be 2, Broad Street Place, London, E.C. This announcement is accompanied by a very useful leaflet showing, in a series of diagrams, the application of "Fiberlic" to walls and ceilings, and demonstrating how readily the material lends itself to various decorative effects. A copy of the leaflet may be obtained from the above address.

The Latest Design for an Open-air School.

The Glasgow School Board, which claims to be the pioneer of properly designed open-air schools for defective children, has, says the "Hospital," taken a further step in opening a specially constructed school for the normal child. Known as the Bernard Street Public School, the new institution has been designed by Mr. David Maben, the School Board's Master of Works. The building is E-shaped, two storeys in height, and provides twenty-two ordinary classrooms, each of which accommodates forty children and gives 15 sq. ft. to every child. In special rooms art, manual work, sewing, housewifery, and so on are taught. A special unit provides for the medical inspection of the scholars—a noteworthy accession. There are also a gymnasium, a drill-hall, and last, but luckily, a library. In what may be called the bath block a series of separate bathing and dressing cubicles has been provided, together with twenty spray baths. The construction is of "brick built in cement," with stone facings. Each classroom has four north windows, a borrowed light on the south, which is furnished with a loggia, while the entrance is by a sliding door 8 ft. wide, which, when open, provides an open-air class-room. Double-hung windows, communication between the blocks by outside corridors, open at one side, garden spaces in the playground, are features of the design.

Building Work in Aberdeen.

The plans of the following new buildings in Aberdeen have been approved: Additional lavatories in connection with the Aberdeen Combworks, on the north side of Hutcheon Street, for the Aberdeen Combworks Company, Ltd., per Mr. William S. Boice, engineer; reconstruction of stone stair, etc., in connection with Broadford Works, Maberly Street, for Richards, Ltd., per Messrs. Wilson and Walker architects; dwelling-house on the west side of Clifton Road, for Messrs. Joseph Shirras and Son, builders, per Mr. George Watt, architect; alterations in connection with the entrance to wood store on the south side of Palmerston Place, for Mr. Charles Lyon, boxmaker, per Mr. William E. Gauld, architect; smoke kiln on the west side of Old Ford Road, for Mr. John T. Kindness, fish curer, per Mr. W. E. Gauld, architect (amended plan); alterations and additions in connection with premises on the north-east side of York Street, for A. Hall and Company, Ltd., shipbuilders, per Mr. John Rust, architect; additions to shipbuilding premises at South Esplanade (East) for John Lewis and Sons, Ltd., shipbuilders, per Messrs. Sutherland and George, architects.

TRADE AND CRAFT.

Incandescent Electric Lamp Handbooks.

We have received from the B.T.H. Co., Ltd., of Mazda House, 77, Upper Thames Street, E.C., a copy of their Handbook No. 1—the first of a series of incandescent lamp handbooks they are issuing. It gives a great deal of useful information and data regarding Mazda lamps of both vacuum and half-watt types, suitable for general illumination, train lighting, projector work, etc., etc. A glossary of technical terms used in connection with glow lamps is a useful feature of this first handbook, which gives in addition rules and terms for the sale of Mazda lamps to private consumers, trade users, and re-sellers. All the forms of standard lighting lamps falling under the heading of Group I. are illustrated to scale, accompanied by the fullest details as to size, type of cap, efficiency, wattage, voltage range, illuminating output in lumens, standard packing, quantities, etc. Diagrams are also included showing full-size illustrations of the various styles of caps fitted to lamps in Group I.

Hospital and Sanitary Fittings.

Messrs. Mellowes and Co., Ltd., of 26, Victoria Street, Westminster, where they have opened a newly equipped showroom, have just issued, very opportunely, an admirably illustrated catalogue of hospital and sanitary fittings. These include several types of waterclosets—combined urinal and slop closet; washdown cantilever w.c., with clear space beneath; patent low-down pattern syphonic w.c.; improved bidets; lavatories and baths of various special forms; sinks; mortuary slabs; and post-mortem tables. These, and other sanitary fittings, can be inspected at Messrs. Mellowes's showrooms.

DUCAL MANSIONS AS MILITARY HOSPITALS.

It is announced at Chester, says a correspondent, that the Duke of Westminster has offered Eaton Hall to the nation as a military hospital for officers for the duration of the war, and that the offer has been accepted. The War Office is taking over the hall and the stables, but not the extensive gardens. Provision will be made for 250 beds. Grosvenor House, London, it is stated, is also to become a military hospital. Eaton Hall, the magnificent Cheshire seat of the Duke of Westminster, is a modern building, the fourth that has been erected on the site. It was designed by the late Mr. A. Waterhouse, R.A., and was erected in 1867 and succeeding years. The seventeenth-century gates and iron railings surrounding the courtyard remain. Rising above the great building is a clock tower, 175 ft. in height, with twenty-eight bells. Eaton Hall contains many fine apartments. The library is 92 ft. in length.

Grosvenor House, his Grace's town residence, dates from about a century ago, but has been much altered. The picture gallery, which contains the famous Rubens paintings, has been built out from the west of the house. The open stone screen on the Upper Grosvenor Street frontage was added in 1842. This is perhaps the most familiar to the public of all the great London mansions, owing to the many occasions on which it has been lent for philanthropic and other gatherings. Among its priceless collection of pictures are Gainsborough's "Blue Boy" and Sir Joshua Reynolds's "Mrs. Siddons."

HOUSING CONFERENCE IN LEEDS.

A conference of representatives of local authorities in Yorkshire, Derbyshire, Nottinghamshire, and North Lincolnshire was opened at the Leeds Town Hall on December 14 to consider the preparation of housing and town-planning schemes to be put into operation at the close of the war. The conference, which was largely attended, was under the auspices of the National Housing and Town Planning Council, the chairman of which (Mr. Harold Shawcross, Rochdale) presided.

The Lord Mayor of Leeds (Mr. E. George Arnold), in welcoming the conference to the city, said that the struggle for existence, whether in the conditions produced by the war or in normal times, demanded that our people should live under the best possible conditions in order that they might have healthy and happy lives and that we might maintain our position among the nations. Leeds had put forward five schemes for town-planning areas containing nearly 5,000 acres, and the preparation of those schemes was being dealt with as quickly as possible. Leeds had spent several millions on street improvements and the removal of unhealthy areas, redeeming the errors and shortcomings of the past, and the city was not likely to wish to develop further on anything approaching the old ill-regulated lines.

The Chairman read a memorandum on "The Preparation of Housing Schemes to be Placed in Operation at the End of the War." He said it would not do for us to be as ill-prepared for peace as we were for war. Whatever Government was in power at the end of the war we must not be fobbed off with the old excuse that there was no money for housing. The money necessary for that purpose must be found, no matter what it cost. The problem of how to provide a sufficient supply of workmen's dwellings in the future was twofold —(1) the provision at the close of the war of houses in adequate numbers throughout the country in those places where the need for them was pressing, and where there was unemployment in the building trade owing to men returning from the war being thrown upon the labour market; (2) the adequate supply of houses when those crises which might arise as a result of the demobilisation of great masses of men had been successfully dealt with, and when the normal activities of the nation were resumed.

The cost of building and the rents necessary to be charged for the new houses had gone up enormously, and therefore it would be very difficult for private enterprise to build houses in the period immediately after the war, when capital would be scarce, rates of interest high, and the cost of the building possibly excessive. For another reason private enterprise would not be anxious to build houses. The ordinary law of supply and demand, which in the end governed rent, was at present in abeyance, and would not come into play until six months after the war. It would be necessary to rely primarily on local authorities to fulfil the duty of remedying the shortage of houses.

The exercise of foresight and the preparation of housing schemes was a national duty which was second only to that of winning the war. It was unlikely that at the end of the war the rate of interest at which money could be borrowed in the open market would be less than 6 or 7 per cent. It would seem, therefore, to be imperative to look to the Government for the provision of cheap money for the building of houses which could be let at rents which workmen could afford to pay. In urging the Government to provide £20,000,000 for housing schemes a deputation from the National Congress has suggested that in making loans from this capital sum the Government should give a substantial contribution in the form of grants-in-aid. The £20,000,000 would enable nearly 100,000 houses to be built.

It might be urged that it would be better to wait until the rates of interest fell and the cost of building materials was decreased. But to follow such a course would be to shirk the performance of a national duty of primary importance. It must also be remembered that if unemployment arose in the building trade at the close of the war the loss incurred in regard to these housing schemes would be small compared with the unproductive expenditure on a huge scale involved as a result of the adoption of hastily prepared schemes for relief, or the expense of keeping men in the Army in order to avoid the disorganisation of industry. Mr. Walter Long had already submitted a comprehensive scheme to the Government, and it was to be hoped that his successor as President of the Local Government Board would be equally sympathetic.

The Chairman proposed a resolution urging local authorities to appoint housing committees to make inquiries as to the needs of their area, and, where there is a shortage of housing accommodation for the working classes, to select suitable land in their area for building houses for the working classes, and, where such land is not owned by the local authority, secure options for the purchase of the same, such options to be exercised at the close of the war, and to plan out such land on town-planning lines, decide upon the types and designs of houses to be built, have specifications drawn up and, generally, make all detailed preparations so that when the time is opportune after the conclusion of the war, tenders can be at once invited and the work of building houses started without avoidable delay.

Mr. S. Smethurst, J.P. (past-president of the National Federation of Building Trades Employers), in seconding the resolution, said that local authorities had been too tender of the rights of property. They had no right to perpetuate unhealthy housing conditions any more than to permit the sale of bad food.

In the discussion Mr. C. B. Howdill (West Yorkshire Architects' Association) asked the conference to give a lead to local authorities in the direction of relaxing unnecessary conditions, so that buildings could be erected at a reasonable cost either by the community or private enterprise.

Mr. Booth (Hull) urged that housing reformers should rest their case upon its merits, not on probable unemployment.

Mr. H. R. Aldridge (secretary of the Housing and Town Planning Council) expressed the view that after the war rents would be high, and there must be general recognition of the necessity for a higher standard of wages. But for the action of the Government tenants in this country would have been paying £6,000,000 a year more in rent.

Mr. Smith (Huddersfield) described what had been done at Huddersfield in regard to the provision of houses, and said that the Corporation were now seeking power to borrow £250,000 for the same purpose.

An amendment to delete the last three words of the resolution, and to add, "or the building of houses undertaken by the local authority without delay," having been accepted, the resolution was carried unanimously.

DUBLIN REBUILDING.

Further Government Amendments.

Further Government amendments to the Dublin Reconstruction Bill have been printed in the Parliamentary papers.

The definition of ownership in Clause 3, dealing with loans, is to be "under a lease for lives or years renewable for ever, or a lease for a term," and in Clause 4, with regard to loans secured by charging Order, it is proposed that any interest instead of any inferior one, as formerly, may, by the Land Judge's order, be charged with repayment of the advance and interest. The registration of the Order is also sought to be dispensed with, and a sub-section is to be omitted as to the Corporation exercise of remedies, a new sub-section being proposed giving the Land Judge power to apportion liability for any charge or encumbrance affecting any other lands or interests as well as the interest charged, or proposed to be charged, and to provide for such contribution as between the lands and interests liable, and such adjustments of rights and liabilities (including indemnities) as appear equitable.

The Land Judge is to be given all such powers and jurisdiction as are vested in or exercised by the High or any Division Court or Judge under any enactments or rules applied for the purposes stated by rules made under the section; and he may review, rescind, or vary any Order without right of appeal.

The Judicial Commissioner or any other Supreme Court Judge nominated by the Lord Chancellor may, during the absence of the Land Judge, act as such, and arrangements may be made between the Land Judge and the Judicial Commissioner for the performance by officers of the Land Commission in cases of urgency of any duties.

For enforcing a charging Order the Corporation may exercise all powers and remedies conferred on mortgagees by the Conveyancing Acts, which shall apply as if the Order were a mortgage by deed. The Corporation shall keep a register of all charging Orders under Local Government Board regulations, and the registration shall be in substitution for registration, under any enactment relating to registration, and the Order and charge created shall be exempt from any such enactments accordingly.

The regulations may provide for the register being open for inspection, and for the issue of certificates as to Orders registered and as to entries with respect to any specified land or interest; prescribe fees for inspection or certificates, and the method in which they are to be applied and accounted for; and define the duties of Corporation officers in connection with the register, and impose penalties for breaches or neglect of duties.

Mr. Duke defines "Land Judge" and "Judicial Commissioners" and proposes to add to the second last clause that Article 32 of the Schedule to the Local Government (Application of Enactments) Order, 1898 so far as it relates to local inquiries shall apply, as it does for the purpose of the Local Government (Ireland) Act, 1898. He also proposes to amend the title of the Act so as to read "Emergency Provisions" instead of "Emergency Powers"; and in the schedule Mr. Duke seeks to make it permissive instead of mandatory for the Local Government Board, if, within "one month after publication of the Order no objection to it has been presented by a person interested in the land, or if such objection has been withdrawn to confirm the Order without further inquiry."

PUBLISHER'S ANNOUNCEMENT.

THE question of the cost of Advertising is governed entirely by the circulation of a publication. The prices for small Advertisements enumerated below are framed upon the lowest possible basis in order to allow the use of the columns of the Journal for "Wants," &c., at a figure well within the reach of everyone.

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BRICKWORK Wanted by rod or job; pointing, old or new; good references if required.—A. Odden, 13, Carlyle-road, South Ealing.

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CARPENTER'S Work wanted. Labour only. Just completed Government contract. Good references.—A., 39, Albert Road, Walthamstow.

CLERK of Works (above military age) desires engagement; twenty-five years' first-class experience; excellent testimonials and references London and country architects.—W. P., Oaklea, Priest-lane, Shenfield, Essex. 930

EVENING Employment required by West End builder and decorator's Clerk; 30, well up in ledgers, P.C. accounts, time-sheets, invoices, etc; disengaged from six o'clock.—Write X., 44, Stonehill-road, Gunnersbury, W.

GENERAL Foreman seeks re-engagement; new or alterations, or hutments; town or country; first-class references from past and present employers; trade, carpenter; age 43; abstainer.—H., 73, Montague-road, Leytonstone, E.

PAPERHANGING (any description) wanted (piecework); high reliefs; anaglyptas leathers, soirettes, embossed papers, Tekko, Emdeca, canvas, and all latest productions; panelling and special designs; town or country.—Logan, 185, Loughborough-road, Brixton, S.W.

PLUMBER (Practical) wants work; well up in latest sanitary arrangements and fitting, new or jobbing; first-class references.—Plumber, 14, William-street, Hampstead-road, N.W.

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The Committee do not bind themselves to accept the lowest or any Tender.

W. B. PURSER,
County Surveyor.

County Surveyor's Office, Grantham,
6th December, 1916.

THE
ARCHITECTS' & BUILDERS' JOURNAL.

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THE DEANERY OF ST. PAUL'S CATHEDRAL.

SIR CHRISTOPHER WREN, ARCHITECT.

ARCHITECTURAL AND BUILDING EVENTS OF THE YEAR.

ALL "events" pertaining to the ordinary course of civil life, however noteworthy they might be in normal times, lose their importance in the midst of such a War as is now raging. Nevertheless, when all has been said and everything possible done for the prosecution of the War, certain matters claim a share of attention, and regarded in this light the record of the past year includes several events of much importance to the architectural profession and the building industry. The chief of these has been the order issued by the Ministry of Munitions for the

Restriction of Building

with the view to effecting an economy in steel and concentrating labour as much as possible on War work. On July 13 a supplement to the "London Gazette" contained the following paragraph: "It shall be lawful for the Minister of Munitions by order to regulate or restrict the carrying on of building and construction work, and by such order to prohibit, subject to such exceptions as may be contained in the order, the carrying on of such work without licence from the Minister." As a sequence to this, an order was issued to the effect that on and after July 20 no building work would be allowed unless licensed by the Ministry of Munitions, except where the estimated cost of the work was less than £500 and the use of constructional steel was not involved. This order, of course, caused a stoppage of general building work, but the appointment of Mr. Ernest Newton, President of the Royal Institute of British Architects, as technical adviser to the Ministry of Munitions on the subject of building, was largely instrumental in mitigating the effect of it as much as was possible in the existing circumstances. On October 6 the Ministry of Munitions issued some general observations on the working of the order, their remarks including the following:

"Every trade in the country has had to take its share in the great task of finding men for the Army. The building trade has had the additional duty of assisting in the equipment of the forces, for the immense increase in the output of munitions could never have been achieved if new factories had not been constructed at unexampled speed. Nor is the work by any means finished. Mr. Montagu, in his statement in the House of Commons, said: 'I hope that the country will not think that all has been accomplished.' There are, indeed, many new factories which urgently require more building labour for their completion, and the housing of those who are to work in the factories is also a problem which must be faced. At the same time every available man must be released for service in the Navy or the Army. It is obvious that under these conditions private building must be restricted, and that building labour must be used to supply the most urgent national needs." At the same time they took occasion to add that the public would be well advised to take advantage of the period during which the regulations are in force to get plans prepared for future undertakings, so that work may be ready to start when the demobilisation of the Army begins after the War. If this can be prepared for beforehand it will be of great advantage when the problems of demobilisation become urgent.

Charing Cross Bridge.

A subject of much controversy has been the proposal of the South-Eastern Railway Company to spend £167,000 on strengthening and widening Charing Cross Bridge, on the ground that the existing bridge is inadequate. The company's proposal was to build four masonry piers, each 40 ft. by 24 ft., between each pair of columns on the east side of the bridge and to erect "balanced cantilevers" on these. A Bill was promoted in Parliament to secure the necessary powers, but, thanks to the strong crusade waged by Sir Aston Webb, Mr. John Burns, Mr. Reginald Blomfield, and others, who realised what a mistake would be made if the railway company were allowed to carry out their ideas, the Bill was rejected on July 3. It may be again promoted in the present session of Parliament, but the forces arrayed against it—the London County Council, the Royal Institute of British Architects, and the London Society among them—give every hope that the scheme will never be sanctioned. Those who have opposed it claim that instead of giving additional life to what is an excrescence on the Thames, a new Charing Cross Station should be built on the south side of the river and a fine new road bridge should be substituted for the existing railway bridge, thus providing a very-much-needed traffic artery. The suggested new road bridge, and the street alterations in connection with it, might be constructed—some suggest—as a memorial of the War. The present Charing Cross Bridge was constructed in 1859, from the designs of Sir John Hawkshaw. It was on the site of the old Hungerford suspension footbridge, and Hawkshaw made use of the piers which were provided on the old bridge to carry the towers for the suspension chains. With this exception the whole of the old bridge was removed and reconstructed as the Clifton Suspension Bridge.

Competitions.

With the nation at War, and a ban imposed on building, it is only in the nature of things that architectural competitions should be practically non-existent. Two or three, however, instituted before the War, have given rise to comment during the past year. The competition for designs for the Australian Parliament House at Canberra (originally opened in June, 1914, and suspended in September of that year, owing to the War) was resuscitated during the summer, when it was announced that eight premiums, ranging from £2,000 to £250, would be offered and that the designs were to be sent in by the end of January, 1917, which time was subsequently extended to April 30. When the intention to proceed with the competition was announced the Royal Victorian Institute of Architects cabled to the Royal Institute of British Architects saying they were of opinion that it ought to be held up until after the War, and requested that the R.I.B.A., in conjunction with the French architectural societies, should express this opinion to the Commonwealth Government. Action was taken accordingly. In reply, the Commonwealth Government said that, after careful consideration of the whole matter, they were of opinion that it was advisable to proceed with the competition, "owing to the fact that after the War the rebuilding of Europe will occupy the attention of

British and Continental architects to such an extent that they will not be prepared to compete. Further postponement will only accentuate the difficulty, and meanwhile the large expenditure which has been incurred renders early occupation of the capital very desirable. The work will also provide employment for hundreds of Australians after the War." On the receipt of this reply, further representation was made to the Commonwealth Government, and it is satisfactory to record that the views again presented—in particular that under the existing War conditions architects in Allied countries would be unfairly penalised—ultimately prevailed; so that the competition is now postponed until after the War.

The much-belated awards in the competition for a town-planning scheme for Dublin, instituted by the Marquis of Aberdeen when Lord-Lieutenant of Ireland, were announced in August. The first prize, £500, was given to the design by Professor Patrick Abercrombie, of the Department of Civic Design, Liverpool, and Messrs. Sydney A. and Arthur J. Kelly, surveyors, of Liverpool. The assessors were Professor Geddes, of Edinburgh, Mr. C. J. McCarthy, City Architect of Dublin, and Dr. John Nolen, of Cambridge, Mass.

For a town-planning scheme for the suburbs of York (Professor Abercrombie, F.R.I.B.A., assessor) the following awards were made: 1st premium (£100), Mr. R. Dann, of Crawley; 2nd (£50), Mr. M. A Piercy, of Warrington; 3rd (£25), Messrs. Noel Stephen and H. O. Burroughs, of Liverpool and Chester.

A very interesting competition for War Memorials, instituted by the Civic Arts Association, was held, the designs being exhibited at the R.I.B.A. premises in July. The chief award, for a Memorial proposed to be erected in the courtyard of the new County Hall to those of the staff of the London County Council who fall in the War, was given to a fine scheme by Mr. E. A. Rickards (architect) and Mr. Henry Poole (sculptor).

Law Cases.

Of the law cases affecting building which have been decided during the past year, perhaps the most important was that brought by the Metropolitan Water Board against Messrs. Dick, Kerr, and Co. The point raised was whether a contract remained binding though suspended by order of the Minister of Munitions. The judge (Mr. Justice Bray) decided that it did. The decision makes clear that a contractor whose work has been suspended by order of the Minister of Munitions must leave his plant on the job. He may not remove it for use on Government work, or on private work with which he may proceed by licence, or for sale to some contractor who is more fortunately situated than himself. It is his property (or, rather, it is *pro tem.* the property of the building owner), but he may not realise on it, no matter how great his need. This is a grievous hardship which, it is hoped, may be removed.

Another important case was that of Spencer Santo and Co., Ltd., v. The Commissioners of H.M. Works and Public Buildings, which occupied the Official Referee's Court for twenty-eight days. In this case the plaintiffs sought to recoved £97,000, balance of contract price (£473,000) for building the new Local Government Office at Westminster, the allegation being that extra work had been imposed upon them by alteration of plans, and that they had incurred losses through other departures from the terms of the contract. After an adjournment, it was announced that the parties had agreed to terms of settlement, defendants paying £3,000 into court, and each party paying its own costs. Mr. Holman Gregory, K.C., as counsel for plaintiffs, said that, having heard the witnesses, he was satisfied that there was no ground for complaint against the architect who had taken over the work (the original architect having died), nor against any of the officials concerned in it. The moral of the case seems to be that, variations being in such circumstances inevitable, it is a pity that their value cannot be determined without litigation.

In the case of the Kleine Patent Fire-resisting Flooring Syndicate v. Killby and Gayford it was decided that when, in the exercise of his powers, the architect varies a contract by eliminating a sub-contract, the chief contractor is liable to the sub-contractor for the consequent breach.

General.

The Irish Rebellion broke out in Easter week, and much damage was done to property in Dublin—chiefly in the Sackville Street area. Many large business premises were destroyed, but fortunately the loss of buildings of historical and architectural interest was surprisingly small; this being the more remarkable when we remember that the Custom House, the Bank of Ireland, and Trinity College are all close to the area of acute disturbance. The building of the greatest interest that suffered was the General Post Office. The main façades and the portico stood intact after the outbreak, but the interior was completely gutted.

The Civic Arts Association was inaugurated at a meeting held on January 28 at the Mansion House, with the following objects: (1) To promote the utilisation, for civic purposes, of the arts and crafts throughout the country; (2) to be a consultative body on questions appertaining to memorials so that these may be worthy of their purpose; (3) to support all efforts to embellish our cities, towns, and villages by the employment of our artists and craftsmen.

Sir Rowand Anderson, who is in his eighty-third year, was awarded the Royal Gold Medal in recognition of the merit of his executed work (chief among which is the McEwan Hall and the Scottish National Portrait Gallery, Edinburgh), his services to architectural education, and his high character and lofty ideals concerning architecture. The medal was presented at the Institute meeting on June 19, Sir Robert Inches, Lord Provost of Edinburgh, attending on behalf of Sir Rowand Anderson, who was incapacitated by illness.

The Arts and Crafts Society exhibition was held in October and November in the galleries of the Royal Academy at Burlington House, an elaborate scheme of decoration being carried out to the design of Mr. H. Wilson, president of the Society.

New Books.

Considering the conditions created by the War, quite a fair number of interesting books on architecture have been published during the year. Chief among them are the following: "Robert Adam and His Brothers" (by John Swarbrick, A.R.I.B.A.); the concluding volumes, III. and IV., of Sturgis and Fotheringham's "History of Architecture"; "Hammersmith" and "Morden College, Blackheath" (London Survey volumes); "Architectural Building Construction" (by Jaggard and Drury): "The Development of English Building Construction" (by C. F. Innocent); "Twenty-five Great Houses of France" (by Sir

INCREASE IN THE PRICE OF THE JOURNAL.

AS already announced, the price of this Journal is to be increased from 2d. to 4d., beginning with the first week in the New Year. The reasons for this change—the great increase in the cost of paper, blocks, printing, and general production—were fully set forth in our issue for last week.

Theodore A. Cook and W. H. Ward); "English Mural Monuments and Tombstones" (by Herbert Batsford and W. H. Godfrey); and the first part of the series of drawings made on the Western front, by Mr. Muirhead Bone. A certain element of romance attached to the sumptuous volume of the Dilettanti Society, dealing with the great temple of Artemis at Magnesia, "one of the most famous examples of Hellenistic architecture," inasmuch as the plates which illustrate it, fine examples of early nineteenth-century steel engraving, were put aside by William Wilkins when editing the volumes of Ionian antiquities, and remained forgotten till Professor Lethaby discovered them and made the occasion for the new volume. During the year we ourselves have issued "A Pocket-book Glossary of English-French Architectural and Building Technical Terms," which, it is hoped, will prove of real service in connection with the vast amount of business that will be created by the rebuilding of the devastated areas of Belgium and France.

Obituary.

The following is a list of the most noteworthy architects in civil life who have died during the year:—

R. Phené Spiers, F.S.A., F.R.I.B.A., for many years Professor of Architecture at the Royal Academy: died on October 4, aged 78. He left estate to the value of between £10,000 and £11,000.

H. L. Florence, F.R.I.B.A.: died in February, aged 73. His estate exceeded £300,000.

Charles Hadfield, F.R.I.B.A., of Sheffield: died on March 22, in his seventy-sixth year.

R. A. Briggs, F.R.I.B.A., of London: died on May 10.

William Leiper, R.S.A., F.R.I.B.A., of Glasgow: died in May, aged 77.

Ernest Willmott, F.R.I.B.A., of Great Missenden: died in June, aged 45.

ARCHITECTS FALLEN IN THE WAR.

THE Record of Honour of the Royal Institute of British Architects comprises the names of nearly 3,000 architects serving with the Forces (included in this list being about 1,150 Fellows, Associates, Licentiates, and Students of the Institute).

The following is a list (incomplete, it is feared) of those architects, architectural assistants, and students who have fallen in the War this year:—

Balfour Abercrombie, Licentiate R.I.B.A., Black Watch (died of wounds in France on July 31, aged thirty-eight).

A. S. Bagshawe, Probationer R.I.B.A., West Kent Yeomanry (killed in action, aged twenty-seven).

2nd Lieut. T. P. Bausor, A.R.I.B.A., Shropshire Light Infantry (killed in action in France, April 6).

A. C. Baxter, Student Society of Architects, 4th London Field Co., Royal Engineers (killed in France on January 24).

Capt. E. N. Frankland Bell, Student at the Liverpool School of Architecture (killed in France).

2nd Lieut. W. J. Bennett, 12th Royal Scots (killed in action).

Capt. C. S. Blake, assistant in L.C.C. Architect's Dept., South Lancashire Regt. (killed in action).

Staff-Capt. Eugène Bourdon, Director of the Glasgow School of Architecture, 78th Brigade French Army (killed in action in France in July).

2nd Lieut. Bernard G. Bowles, The Buffs (killed in action on September 3, aged twenty-two).

2nd Lieut. J. Lindsay Brough, 15th Royal Scots (killed in action).

2nd Lieut. J. C. Bucknill, Hampshire Regt. (killed in action on January 21).

2nd Lieut. Joseph W. Bull, A.R.I.B.A., Royal Engineers (died of wounds at Rouen on September 26, aged twenty-five).

2nd Lieut. F. S. Chesterton, R.F.A. (died of wounds on November 11).

2nd Lieut. A. B. K. Cook, Royal Fusiliers (killed in action on July 1).

Capt. A. E. Corbett, F.R.I.B.A., partner in the firm of Woodhouse, Corbett and Dean, architects, of Manchester (killed in action in France on July 1).

Capt. J. B. Cubey, A.R.I.B.A., 23rd Northumberland Fusiliers (killed in action).

A. C. Caudwell, Licentiate R.I.B.A., Queen's Westminster Rifles (killed in action on October 10).

2nd Lieut. W. E. Davies, Student R.I.B.A., 5th Cheshire Regt. (died of wounds in France on January 29, aged twenty-five).

Corp. H. E. J. Davidge, 13th Divisional Signal Co., Royal Engineers (died of wounds, January 20).

2nd Lieut. A. D. Danskine, A.R.I.B.A., 2/1st Lowland Field Co., Royal Engineers (T.) (killed in in action in Egypt on August 4).

Capt. R. D. Denison, Royal Warwickshire Regt. (killed in action).

Capt. G. Dickins, King's Royal Rifle Corps (died of wounds on July 17).

Major H. Phillips Fletcher, F.R.I.B.A., Middlesex Hussars, attached to Royal Flying Corps (killed by aeroplane propeller on August 1).

2nd Lieut. W. A. Stanhope Forbes, Duke of Cornwall's Light Infantry (killed in action on September 4, aged twenty-three).

Lieut. L. S. Ford, Student R.I.B.A., Queen's Royal West Surrey Regt. (killed in action in France on July 1, aged twenty-six).

2nd Lieut. A. A. France, Royal Engineers (killed in action in France on October 7).

2nd Lieut. D. J. Gordon, Student R.I.B.A. (killed in action in France on July 3).

Capt. Percy G. Graham, 16th Northumberland Fusiliers (killed in action).

Capt. E. M. Gregson, Loyal North Lancashire Regt. (killed in action on June 28, aged twenty-six).

2nd Lieut. D. M. Griffin, A.R.I.B.A., King's Liverpool Regt. (died of wounds, aged twenty-six).

2nd Lieut. F. Grissell, A.R.I.B.A., Coldstream Guards (killed in action on September 15).

2nd Lieut. J. K. Ground, A.R.I.B.A., 10th Battn. Royal West Kent Regt. (killed in action).

2nd Lieut. K. D. Gwynne-Vaughan, Royal Fusiliers and Machine Gun Corps (killed in action on September 6, aged twenty).

Capt. N. W. Hadwen, in partnership with Mr. E. Guy Dawber, F.R.I.B.A. (killed in action in France on July 1).

Lieut. Adrian T. Hardman, Student R.I.B.A., Royal Fusiliers (died of wounds March 29, aged twenty-five).

Lieut. C. C. Harvey, assistant in the office of Sir John Burnet, Glasgow, Argyll and Sutherland Highlanders (died of wounds).

Irving Henderson, of Gateshead, 16th Northumberland Fusiliers (killed in action in France on July 1).

Capt. W. H. Hillyer, 3rd London Field Company Royal Engineers (killed in action).

2nd Lieut. T. B. D. Hough, Student R.I.B.A., 8th East Yorks. Regt. (killed in action January 16, aged nineteen).

2nd Lieut. Alick G. Horsnell, Suffolk Regt. (killed in action in France).

2nd Lieut. C. K. Howe, Berkshire Regt. (killed in action on July 1).

Lieut. W. M. Jenkins, Student R.I.B.A., Welsh Pioneer Battn. (killed in action, aged twenty-five).

Lieut. L. H. F. Kerr, Army Service Corps (killed in action).

2nd Lieut. C. V. Kilner, Suffolk Regt. (died of wounds, October 8, aged thirty-four).

Capt. J. L. Lawrence, Royal Scots (killed in action).

George M. Livingstone, Argyll and Sutherland Highlanders (killed in action, aged thirty-five).

Capt. G. Marshall Mackenzie, B.A., A.R.I.B.A., Seaforth Highlanders (killed in action in Mesopotamia, aged twenty-five).

H. F. Paterson, Probationer R.I.B.A., Hon. Artillery Company (killed in action on September 30, aged twenty-one).

Lieut. T. S. Paterson, Royal Garrison Artillery (killed in action on November 10, aged twenty-six).

E. S. Petch, A.R.I.B.A., 4th Royal Scots, Edinburgh (killed in action, aged thirty-one).

Sapper K. Peters, Student, Society of Architects (died of wounds in France, February 18, aged thirty-four).

Capt. R. M. H. Philp, A.R.I.B.A., Royal Field Artillery (killed in action, aged twenty-eight).

Sergt. L. A. Phillips, A.R.I.B.A., Public Schools and Universities Battalion, Royal Fusiliers (killed in action in France, March 14).

Capt. P. C. Pilling, A.R.I.B.A., Loyal North Lancashire Regt. (died of wounds).

Capt. E. G. Fellowes Prynne, Royal Fusiliers (killed in action on September 16, aged twenty-six).

2nd Lieut. J. Reid, King's Liverpool Regt. (killed in action on August 18, aged twenty-two).

A. H. Russell, L.C.C. Architects' Dept., The London Regt. (killed in action).

Capt. Reuben Roberts (killed in action on July 8).

Capt. T. S. Rushworth, A.R.I.B.A., 7th Battn. City of London Territorials (killed in action in France on September 18, aged thirty-five).

Lieut. A. E. Shapley, Probationer R.I.B.A., Northumberland Fusiliers (killed in action).

2nd Lieut. F. D. Sowerby, 4th Hussars (died of wounds on August 1).

2nd Lieut. Frank E. Sparrow, of Dublin, Royal Engineers (killed in action).

Lieut. Charles Stonehouse, A.R.I.B.A., 11th Battalion East Lancashire Regt. (killed in action in France on July 1, aged thirty-four).

A. E. Stott, Student R.I.B.A., King's Liverpool Regt. (died of wounds on June 23).

Lce.-Corp. E. W. Stubbs, A.R.I.B.A., 72nd Section, 32nd Division, R.A.M.C. (T.) (killed in action on August 7, aged twenty-eight).

Lce-Corp. J. H. Taylor, A.R.I.B.A., Sanitary Section, R.A.M.C. (killed in France on July 28).

Lieut. J. F. Venmore, Royal Welsh Fusiliers (killed in action, aged twenty-seven).

Capt. Denis H. Walker, Student R.I.B.A., 5th Battn. A.P.W.O. (died of wounds on January 26, aged twenty-six).

2nd Lieut. Colin Watt, Royal Engineers (died of wounds, aged twenty-four).

2nd Lieut. Philip E. Webb, A.R.I.B.A., Royal Engineers (killed in action on September 25, aged thirty).

2nd Lieut. Walter R. Westwood, Student R.I.B.A., R.F.A. (died of wounds on October 26, aged twenty-two).

2nd Lieut. R. Wheatley, Sherwood Foresters (killed in action, aged twenty-two).

Corp. A. Winch, A.R.I.B.A., 15th West Yorkshire Regt. (killed in action in France on July 1).

2nd Lieut. Henry Wood, 19th Battn. Royal Fusiliers (killed in action January 2).

MILITARY DECORATIONS FOR ARCHITECTS.

The following is a list of the military decorations gained by architects and architectural students during the present year:—

Victoria Cross.

Capt. E. N. Frankland Bell, Royal Inniskilling Fusiliers, student of the Liverpool School of Architecture (killed in action in France in July). "He was in command of a trench-mortar battery, and advanced with the infantry in the attack. When our front line was hung up by enfilading machine-gun fire, Capt. Bell crept forward and shot the machine-gunner. Later on, on three occasions, when bombing parties, which were clearing enemy's trenches, were unable to advance, he went forward alone and threw trench-mortar bombs among the enemy. When he had no more bombs he stood on the parapet, under intense fire, and used a rifle with great coolness and effect on the enemy advancing to counter-attack. Finally he was killed rallying and reorganising infantry parties which had lost their officers. All this was outside the scope of his normal duties with the battery. He gave his life in his supreme devotion to duty."

Distinguished Service Order.

Lieut.-Col. J. Maurice Arthur, Licentiate R.I.B.A., Royal Engineers (for special work in the trenches before Richeburg).

Major H. Phillips Fletcher, F.R.I.B.A. ("for conspicuous ability and skill in the performance of his special duties").

Major Peter G. Fry, Royal Engineers.

Military Cross.

Lieut. Hugh Bowman, Yorkshire Regt.

2nd-Lieut. P. Dangerfield, 1st Battn. East Kent Regt.

2nd-Lieut. A. M. Durrant, A.R.I.B.A., 8th Battn. Loyal North Lancashire Regt.

2nd-Lieut. J. H. Hartley, Royal Engineers.

2nd-Lieut. G. Howard Jones, A.R.I.B.A., 2nd Welsh Regt.

Capt. R. H. Maddock, 2nd Battn. Queen's Royal West Surrey Regt.

Capt. H. P. G. Maule, F.R.I.B.A., Hon. Artillery Company (formerly headmaster of the Architectural Association School of Architecture).

2nd-Lieut. W. G. Newton, A.R.I.B.A., London Regt.

Lieut. J. F. Venmore, architect of Liverpool, 14th Royal Welsh Fusiliers.

Cross of Chevalier of the Legion of Honour.

2nd-Lieut. F. D. Sowerby, student R.I.B.A., 4th Hussars.

Croix de Guerre.

C. Groves, A.R.I.B.A., serving in the French Army as Commandant, Convois Automobiles, S.S.A., No. 5.

Major H. Phillips Fletcher, F.R.I.B.A. (killed on August 1).

SOME NOTEWORTHY BUILDINGS OF THE YEAR.

THE CUNARD BUILDING, LIVERPOOL.

THE huge new building which has been erected by the Cunard Co. at the Pierhead, Liverpool, is undoubtedly the most important civic building which has been completed during the past year. It is a magnificent structure, and must be ranked as the finest office building yet erected in this country. Photographs of it are not yet available for reproduction—the façade, in fact, is not quite free of the contractors' impedimenta—but the accompanying perspective gives a very admirable representation of it. The design is the joint work of Messrs. Willink and Thicknesse, of Liverpool, and Messrs. Mewès and Davis, of London, who have acted together as associated architects, and are to be congratulated on the excellent result of their collaboration.

The building stands between the head offices of the Royal Liver Insurance Co. and the Mersey Docks and Harbour Board—all three occupying the site of the old George's Dock. The main façade is nearly 200 ft. in length, the height from sub-basement level being 125 ft. In general style the design of the façade is based on the Italian palazzo, but the interior construction is essentially modern, consisting of a reinforced concrete frame, to which the Portland stone façades are applied as a suitable finish. The building has four main entrances, one in the centre of each façade, and main corridors axially in line with these, meeting in a large traffic hall in the centre. The Cunard Co.'s main offices occupy the major portion of the ground floor, as well as most of the lower ground floor, and the whole of the fifth floor, where the company's board-room is situated: the remainder of the building being apportioned for general offices.

Many interesting points of construction are to be found in the building. As an instance, the floor construction, of hollow steel tiles, may be cited. Again, the main staircase is rather unique, there being no stringer beams on the well side of the stairs, but a 6 in. reinforced concrete slab supported on the wall beams. Double floors are constructed on each side of the main staircase to carry and hide the wastes from the lavatories. A feature of the building is the main cornice, which is entirely carried by reinforced concrete cantilevers. Above the cornice a screen wall is built, the reinforced concrete frame consisting of buttresses 14 ft. high over each external pier and two connecting beams, one at the top and one at the centre. The buttresses are tied back in a similar manner to the cornice



THE NEW CUNARD BUILDING, PIERHEAD, LIVERPOOL.

WILLINK AND THICKNESSE, AND MEWÈS AND DAVIS, ASSOCIATED ARCHITECTS.

cantilevers. This wall was designed to resist the noted gales of eighty miles an hour which are experienced in Liverpool.

The general contractors for the building were Messrs. W. Cubitt and Co., of London. The contractors and engineers for the reinforced concrete work, including the "steel tyle" floors, were the Trussed Concrete Steel Co., Ltd. (under the supervision of Mr. B. L. Hurst, M.I.C.E., A.M.I.M.E., of London). The whole of the Portland stone and granite was supplied from the quarries of the United Stone Firms, Ltd., of Bristol, and executed by them. All the decorative plasterwork, including that in the Cunard general office, was executed by Messrs. G. Jackson and Sons, Ltd., of London. The marble work was executed by the following five firms: Messrs. Galbraith and Winton, of Glasgow; Messrs. J. Whitehead and Sons, of London: Messrs. Bellman, Ivey and Carter, of London; Messrs. M. B. Bounds and Son, of London; and Messrs. J. Stubbs and Sons, of Liverpool. The main corridor and lavatory floors and the artificial stone plaster were executed by the Art Pavements and Decorations, Ltd., of London. The oakwork in the Cunard board-room was executed by Messrs. Scott, Morton and Co., of Edinburgh. The heating and ventilation were carried out by Messrs. R. Crittall and Co., Ltd., of London, and the plumbing by Messrs. W. Griffiths and Sons, of Liverpool. The electric lighting installation was carried out by Messrs. Higgins and Griffiths, Ltd., of London, under the supervision of Messrs. Albion T. Snell and Partners, of London. The lift installation was carried out by Messrs. Waygood-Otis, Ltd., of London; there are sixteen lifts in the building, including three operated by hydraulic power on the direct-acting system, two of these lifts being for baggage and capable, in each case, of raising a load of 4,480 lb. through a height of 6 ft.; all the other lifts are electric, including ten for passengers or passenger-goods service, two for dining-room service, and one for letters.

NEW BUILDING FOR BRITISH DOMINIONS INSURANCE COMPANY.

THE office buildings of the City are the least known, architecturally, of all the buildings of London, the reason being perhaps that the City is a place of hurry, a crowded area compounded of tall structures set in narrow streets where architecture cannot properly be appreciated; added to which the pervading spirit of business, of endless traffic and fast-moving throngs, seems never to give the opportunity for anything more than a passing glance at the façades which form the background for all this activity. It is only when one sees the City deserted, on Sunday or some holiday, that one realises the merit of its office



BRITISH DOMINIONS INSURANCE BUILDING, ROYAL EXCHANGE AVENUE, LONDON, E.C.: BOARD ROOM.

ARTHUR H. MOORE, A.R.I.B.A., ARCHITECT.

buildings. There are, for instance, those relics of an eighteenth-century City, unobtrusive Georgian fronts in good brickwork, with windows still preserving their thin bars and old crown glass, and doorways enriched with carved hoods. There are also relics of an early nineteenth-century City, in the form of plain stuccoed fronts with reeded pilasters, delicate cornices, and refined entrances. And there are office buildings of a still later date that claim attention by reason of their considerable merit. Certain outstanding buildings, like the Sun Life Office by Cockerell, the National Provincial Bank in Threadneedle Street by John Gibson, and the Atlas Fire Office in Cheapside by Thomas Hopper, have received a measure of general appreciation and illustration, but there are many other buildings which equally deserve some permanent record before they share the common fate of demolition and rebuilding. For the City is always rebuilding itself in order to meet the demands for extended and more elaborate accommodation. In this development the foremost part is taken by the insurance companies, who, by reason of their established funds and increasing resources, find themselves in a position to expend the very large sums that are needed to-day for the erection of palatially equipped buildings on costly sites. Many of these buildings have been illustrated in past issues of this Journal, and to the list must now be added the building at the rear of the Royal Exchange which has been erected as new head offices for the British Dominions General Insurance Co., Ltd. Mr. Arthur H. Moore, A.R.I.B.A., was the architect. The main front, to Royal Exchange Avenue, is carried out in white glazed Carrara ware (as a concession to certain rights of light by adjacent owners), with an elaborate doorway. Within the building, the principal room on the ground floor is the Underwriting Room—illustrated on this page; it is panelled to a height of 9 ft. with some very finely figured walnut. The principal room on the upper floors is the Board Room, shown by the illustration on the preceding page. The Board Room is panelled out in oak and has a ceiling heavily enriched with modelled plasterwork.

The general contractors for the building were Messrs. Patman and Fotheringham, Ltd. Messrs. H. H. Martyn and Co., Ltd., executed the walnut panelling, plaster decorations, and wrought ironwork; Messrs. Restall, Brown and Clennell supplied the oak panelling and furniture; Messrs. John Daymond and Son executed the wood-carving, Messrs. H. W. Cashmore and Co. the bronzework, Messrs. Henry Hope and Sons, Ltd., the steel frames and casements, and Messrs. Fenning and Co., Ltd., the marble work. A vacuum-cleaning plant was installed by the Waygood Vacuum Cleaner Co., lifts by Messrs. Waygood-Otis, Ltd., and the Lift and Hoist Co., reinforced concrete staircase by Messrs. Stuart's Granolithic Co., Ltd., pavement and stallboard lights by Messrs. Haywards, Ltd. The whole of the horizontal and vertical damp-coursing, and all the roofs and gutters, were carried out in asphalt by Messrs. Thomas Faldo and Co., Ltd., London.



BRITISH DOMINIONS INSURANCE BUILDING, ROYAL EXCHANGE AVENUE, LONDON, E.C.: UNDERWRITING ROOM.

ARTHUR H. MOORE, A.R.I.B.A., ARCHITECT.

CARDIFF TECHNICAL INSTITUTE.

GRADUALLY the civic centre in Cathays Park, Cardiff, is being completed. The first building to be erected was the Registry Building by Messrs. Wills and Anderson, about twelve years ago; then followed the City Hall and the Law Courts by Messrs. Lanchester and Rickards, which splendid group of buildings may be regarded as the genesis of the main scheme; and in later years the University College of South Wales and Monmouthshire, by Mr. W. D. Caröe, and the Glamorgan County Hall, by Messrs. Harris and Moodie, were built; while the erection of the National Museum of Wales, by Messrs. Smith and Brewer, has been well advanced, though stopped by the War, and the design has been approved for the building to accommodate the Welsh Insurance Commissioners, by Mr. R. J. Allison of H.M. Office of Works. The ultimate aim is to erect the Welsh Parliament House on the area on the north side, at present vacant; but this is essentially a scheme for the future. Most recent of all the new buildings is the Technical Institute by Messrs. Ivor Jones and Percy Thomas, of Cardiff. Its completion was greatly delayed by the War, which has also caused the furnishing to be postponed, temporary furniture only being used for the rooms required for immediate occupation, while no use is at present being made of the chemistry department, the engineering workshop and laboratory, the bakery, and certain other parts of the building.

As in the case of most of the other buildings forming this civic centre, the design for the new Technical Institute was selected in competition, and it has worked out most successfully. The elevations are reminiscent of that scholarly type of classical architecture which has distinguished the public buildings of the United States, and the plan shows a freedom from complexity and a convenience of arrangement which is most admirable.

The building adjoins the Glamorgan County Hall, on the west side of the area, facing King Edward VII. Avenue. It forms roughly three sides of a quadrangle (the fourth side being reserved for future extension) and consists of three floors—lower ground floor (about five feet below the road level), upper ground floor, and first floor.

The general contractors for the building were Messrs. E. Turner and Sons, Ltd., of Cardiff; steelwork was supplied and erected by Messrs. Archibald D. Dawnay and Sons, Ltd., of London and Cardiff; Portland stone by Mr. F. J. Barnes, of Portland; bricks by the Phœnix Brick Works, of Cardiff; sanitary fittings by Messrs. Shanks and Co., Ltd., of London; patent roof glazing by Messrs. Henry Hope and Sons, Ltd., of Birmingham; steel window frames, wrought-iron staircase balustrading and railings, and bronze electric-light fittings by Messrs. George Wragge, Ltd., of Salford; lead rainwater heads by Messrs. H. W. Cashmore and Co., of Westminster; oak fencing and gates by Messrs. John P. White and Sons, Ltd., of Bedford; "Solignum," for interior woodwork by Messrs. Major and Co., of Hull; goods lift by Messrs. Smith, Major and Stevens, of Northampton; heating and ventilating apparatus by Messrs. G. N. Haden and Sons, of Trowbridge; hot-water heater by the Cardiff Gas Co.; folding partitions by the North of England School Furnishing Co., of Darlington; electric-light installation by Messrs. H. J. Cash and Co., of Westminster; fibrous plasterwork in assembly hall by Mr. T. A. Jones, of Cardiff. The stone carving to the main entrance was executed by Mr. Albert H. Hodge, of London.



CARDIFF TECHNICAL INSTITUTE: STAIRCASE AND LANDING, UPPER GROUND FLOOR.

ST. MARTIN'S THEATRE, LONDON.

THE latest of all the London theatres—the St. Martin's Theatre, opened in November—is, in point of size and treatment, significant of a change that has been slowly taking place during recent years, inasmuch as this is not a large but a comparatively small theatre, and its interior, instead of revelling in a lavish display of modelled plasterwork tricked out with gold-leaf and paint, has an intimate, almost domestic, character. In general style it is based on what is known as English Georgian, and gives one the impression of being a private theatre provided by some patron of the dramatic arts for the entertainment of his guests. The proscenium and the flanking walls of the auditorium are panelled for their full height in Italian walnut, a range of columns and pilasters on either side, with gilded capitals and bases, carrying a bold entablature, which is continued across the proscenium.

It is a two-tier house, the lower tier forming the dress circle and the upper tier the family circle and gallery. There is no pit, the whole of the lower floor being treated as a parterre for stalls. Three boxes are provided on each side, framed in between the columns and pilasters, and at the back of the dress circle are two other boxes, one of them being the Royal box, with ante-room and separate entrance. The circle fronts are treated as balustrades, and here, as elsewhere in the theatre, we may note some excellent bracket lights modelled on the robust and pleasing forms of Georgian sconces. The ceiling is treated quite simply with plain plasterwork in strongly-marked panels, but over the centre of the auditorium is a large glass dome, so lighted from above that the whole presents a most agreeable appearance of sunlight. The upholstery throughout is of a soft blue shade, in keeping with the subdued and unobtrusive character of the general design.

The theatre occupies an island site between Charing Cross Road and St. Martin's Lane. Its front is to Litchfield Street. The façade comprises a range of columns standing on a plain base and carrying an entablature and parapet; three tiers of windows being embraced by the Order.

The architect of the theatre was Mr. W. G. R. Sprague. The general contractors were Messrs. Lenn, Thornton and Co. The steelwork was erected by Messrs. Smith, Walker and Co. Messrs. F. de Jong and Co., Ltd., carried out the whole of the interior decoration of the theatre. Messrs. Hampton and Sons were responsible for the furnishing, including the seating, drop curtain, carpets, and hangings. The glass dome over the auditorium was executed by Messrs. Wotton and Sons. Electric-light fittings were supplied by Messrs. Strode and Co. and Messrs. Peyton and Peyton, Ltd.; and hydrants and fireproof curtain by Messrs. Oldroyd and Son. The heating installation was carried out by Messrs. Strode and Co, and the ventilating system by Messrs. David Rowell and Co., Ltd. The artificial stone front was executed by Messrs. Arrowsmith and Co.



Photo: Bedford Lemere & Co.

ST. MARTIN'S THEATRE, LITCHFIELD STREET, LONDON, W.

W. G. R. SPRAGUE, ARCHITECT.



Photo: Bedford Lemere & Co.

ST. MARTIN'S THEATRE, LITCHFIELD STREET, LONDON, W.

W. G. R. SPRAGUE, ARCHITECT.



Photo: Bedford Lemere & Co.

MOORGATE HALL FINSBURY PAVEMENT LONDON. E.C

RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

MOORGATE HALL, FINSBURY PAVEMENT, LONDON, E.C.

THIS large block of offices, with shop premises on the ground floor, is a noteworthy addition to the business premises of the City, inasmuch as it is stamped with the hall-mark of scholarly ability in architectural design, while at the same time frankly recognising the most modern methods of construction and utilising them to provide suitable arrangements and admirable lighting in every part. The building is of steel-frame construction with concrete floors on the patent system of The Fawcett Construction Company. The façade is of Portland stone, and extends for a length of 220 ft., being one of the longest single fronts in the City. In the centre is the main entrance, marked by a doorway of noble proportions. The building has a flat roof, and its treatment with the attic set back and the central part, comprising five bays, carried up above the main roof line (and incidentally screening water tanks at this level), gives to the building an ordered skyline which is as pleasing as it is rare. Messrs. Richardson and Gill, FF.R.I.B.A., were the architects, and Messrs. Chessum and Sons the general contractors.

NEW PRINTING WORKS FOR W. H. SMITH AND SON.

ON an extensive site on the south side of Stamford Street, London, S.E., opposite the new Stationery Office (now temporarily used as a hospital for wounded soldiers), a splendid new printing works has been erected for Messrs. W. H. Smith and Son, from designs by Mr. C. Stanley Peach, F.R.I.B.A. It is essentially modern in character, being of skeleton steel frame construction and fire-resisting in every part. The structural steelwork is encased and the street façades are finished with cement.

Within the building the chief feature of interest is a magnificent machinery hall.

The general contractors for the building were Messrs. Holliday and Greenwood. The steelwork was supplied and erected by Messrs. Dorman, Long and Co., Ltd. For the floors throughout Johnson's steel wire lattice (supplied by Messrs. Rd. Johnson, Clapham, and Morris) was used. The fire-resisting roofs were constructed by the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd. The steel window frames were supplied by the Crittall Manufacturing Co., Ltd. Messrs. Mellowes and Co., Ltd., were responsible for the patent glazing and the plumbing and sanitary work; the glazing of the roofs over the machinery hall was an especially large and important undertaking. Armoured doors were supplied by Messrs. Mather and Platt, Ltd.; fire-escape staircases by Messrs. Haywards, Ltd. Messrs. R. Crittall and Co., Ltd., carried out the heating and ventilating installation.



NEW PRINTING WORKS FOR W. H. SMITH AND SON, STAMFORD STREET, LONDON, S.E.

C. STANLEY PEACH, F.R.I.B.A., ARCHITECT.

KING'S COLLEGE FOR WOMEN.

THE new establishment of King's College for Women (University of London) at Kensington is the latest development of a work begun eight years ago, when courses in domestic and social science were instituted by the College with a view to providing education in science and economics of a University standard, and applying the principles thus taught to the management of the home and of young children, to the hygienic and businesslike conduct of institutions, to the laws and economic conditions affecting the employment of women in factories and workshops, etc.

The College is entered from Campden Hill Road, where are two finely wrought gates in iron, flanked by brick piers, those of the main entrance gate being crowned by carved stone urns. Entering by the lower gate, we pass along a carriage-way to the entrance to the hostel. This block, like the rest of the college, is a straightforward piece of brickwork, carried out in bricks of excellent texture and colour, with just enough stone dressings and carved enrichments to enliven the whole and avoid all appearance of barrenness. The main entrance leads into a hall lined with Hopton Wood stone. To the right is the refectory, where the architects (Messrs. H. Percy Adams and Charles Holden) have had their chief opportunity for interior decoration, and have achieved an extremely pleasant result (as can be seen by reference to the illustration on the next page). The refectory is a room measuring about 75 ft. by 35 ft., covered by a barrel ceiling (in reinforced concrete) and lighted by French windows and by clear-storey windows. A range of columns extends down each side, and at one end is a slightly raised platform for the high table. The architectural treatment of this interior displays a marked sense of refinement. The plaster-work on the ceiling, for example, is in just sufficiently high relief to emphasise the lines of the construction, while not being too insistent and heavy, as much decorative plasterwork unfortunately is; the mouldings are correspondingly delicate, and the electroliers graceful in character.

To the left of the entrance hall are the kitchen offices, and beyond these, on the west side of the quadrangle, are a series of rooms which are quite unique. They comprise a large teaching kitchen in the centre, with a teaching pantry, a teaching scullery, a teaching larder, and a teaching laundry in conjunction. These rooms are equipped with every kind of apparatus and fitting for cooking and other domestic work, and practical instruction and demonstration is given in them.

The hostel proper is installed in the south and west blocks. There are fifty-seven bed-sitting-rooms, to each of which a dressing-room is attached, the remainder of the hostel being occupied by the



KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, KENSINGTON, LONDON, W.: VIEW IN QUADRANGLE.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

common-rooms, isolation-rooms, and administration offices. The common-room on the first floor is an extremely comfortable apartment, furnished in good taste, and having a fine marble mantelpiece as a focus of interest; and in connection with it we may note an application of craftsmanship which is immediately pleasing—the cast-lead grids covering the radiators, which are set in recesses. The radiator, essential though it be, is generally more or less of an excrescence in a domestic interior, but this device of a lead grid of Adam character covers all its faults, and adds a new feature to the decorative scheme.

The laboratories block is on the north side of the quadrangle. On the ground floor are four large laboratories for physics, physiology, bacteriology, and hygiene respectively, and in connection with them a lecture theatre, a research-room, preparation rooms, and lecturers' rooms; the first floor being mostly occupied by chemistry laboratories, with various rooms in connection with them. These laboratories, in their equipment and finish, show the same sound construction and careful attention to detail which is noticeable throughout the building.

The general contractors for the building were Messrs. Wallis and Sons, of Maidstone. Mr. Broadbent executed the finely-carved stone urns which are a feature of the quadrangle, and was also responsible for the rich keystones over the refectory windows and the rest of the stone carving, which displays a rare skill with the chisel. Facing bricks and roof tiles were supplied by Messrs. Collier, of Reading, and bricks for dressings by Messrs. Lawrence. Casements were supplied by Messrs. Henry Hope and Sons, Ltd. The art metalwork in iron and lead was executed by Messrs. Thos. Elsley, Ltd. The electric light fittings are by Messrs. Faraday and Sons—from Mr. Holden's designs; the two large electroliers in the refectory are of real bronze, and support bowls of alabaster. The cooking and laundry plant was supplied and fitted by Messrs. Fletcher, Russell and Co., Ltd., Messrs. James Slater and Co., and the Gas Light and Coke Company; Messrs. Fletcher, Russell having installed in the kitchen their "Langham" range, an example of the latest type of gas-cooking apparatus. The laboratory fittings were made by Messrs. Baird and Tatlock, and most of the rest of the furniture (including the refectory tables and chairs) by Messrs. Heal and Son. Tiles were supplied by Messrs. Minton and Co.; sanitary fittings by Messrs. Doulton and Co.; patent glazing by the British Challenge Glazing Company; grates by Messrs. Bratt, Colbran and Co. The Gas Light and Coke Company were responsible for the gas fitting; Messrs. Rashleigh, Phipps and Co. for the electric wiring; and Messrs. Berry and Sons for the heating apparatus. The decorative plasterwork was executed by the general contractors, Messrs. Wallis, from models prepared by Mr. G. P. Bankart (Messrs. G. Jackson and Sons, Ltd.) and Mr. Palliser.



KING'S COLLEGE FOR WOMEN, CAMPDEN HILL, KENSINGTON, LONDON, W.: REFECTORY.

H. PERCY ADAMS AND CHARLES HOLDEN, ARCHITECTS.

THE MAISON LYONS, OXFORD STREET, LONDON, W.

THE new Maison Lyons stands on an L-shaped site on the north side of Oxford Street, nearly midway between Messrs. Selfridge's and Messrs. Marshall and Snelgrove's premises, and, with frontages of about 60 ft. to Oxford Street and of 150 ft. each to Gees Court on the west side and to Stratford Place Mews on the east, covers an area of nearly 7,000 ft. super. By reason of its position it is exceptionally well lighted, and full advantage has been taken of this in the planning by covering the whole site and dispensing with all internal courts and areas. The building, which is of the steel-frame skeleton type, consists of sub-basement, basement, ground floor, and seven storeys over, with two enclosed fire-resisting staircases, one at the southern end for the use of the public, and the other at the northern end of the building for the use of the staff.

The dominating idea in planning the premises was to provide four large rooms for the public—on the basement, ground, first, and second floors—all of the same size, extending the full width of the frontage of 60 ft. to Oxford Street, and to a depth of 90 ft. without any columns or stanchions to obstruct the floor space, so that tables could be placed wherever desired.

The architects for the building were Messrs. Lewis Solomon and Son, of London. Messrs. Lyons and Co. acted as their own building contractors, and their engineering department carried out the whole of the arrangements in connection with the heating, lighting, and ventilation of the premises, and the installation of all the service lifts. The steelwork was designed by Messrs. Reade, Jackson and Parry, and supplied and erected by Messrs. Dorman, Long and Co. The elevations to Oxford Street, Gees Court, and Stratford Place Mews are faced with Doulton's "Carrara" ware, and special provision has been made so that the elevations can be periodically cleaned from travelling cradles with the minimum of trouble. The whole of the ornamental plasterwork was carried out by Messrs. G. Jackson and Sons, Ltd.; mosaic and marble work by Messrs. Fenning and Co. Sanitary fittings were supplied by Messrs. Shanks and Co., and lifts by Messrs. Waygood-Otis, Ltd.



MAISON LYONS, OXFORD STREET LONDON, W.: GROUND-FLOOR SHOP.
LEWIS SOLOMON AND SON, ARCHITECTS.

THE PHŒNIX ASSURANCE BUILDING, LONDON, E.C.

THE Phœnix Assurance Co.—one of the oldest, having been established in 1782—has erected in King William Street, London, E.C., a very large new building as its general headquarters, from designs by Messrs. J. Macvicar Anderson and H. L. Anderson, though, much to the regret of the directors, the senior partner, Mr. J. Macvicar Anderson, died in his eightieth year during the progress of the work.

The main façade, 78 ft. in height, is executed entirely in Portland stone, with the exception of the plinth and the central and two side entrances, which



Photo: Bedford Lemere & Co.

PHŒNIX ASSURANCE BUILDING, KING WILLIAM STREET, LONDON, E.C.: BOARD ROOM.

THE LATE J. MACVICAR ANDERSON AND H. L. ANDERSON, ARCHITECTS.

are of grey unpolished granite. The central doorway leads through a marble-lined vestibule into the main office—a very large apartment, measuring 67 ft. in length, 56 ft. in width, and 19 ft. in height, dominated by a central octagonal feature, which, with an arcaded gallery supported on eight fluted Doric columns, rises through two storeys and is surmounted by a light dome 20 ft. in diameter and some 40 ft. above the floor. The Fire Department is on the right and the Life Department on the left, a wide marble-paved space between the two counters leading direct to the staircase and lifts. The scheme of decoration consists in the main of a judicious combination of but two marbles, the greyish green of the Campan Verte columns and pilasters blending well with the light grey markings on the white ground of the Piastraccia wall linings. Verte Antique and Tinos green are used in the dado and pedestals and "second statuary" in the main entablature and in the capitals and bases of the columns and pilasters. On the walls are bronze reliefs, modelled from the heading of an old policy, and serving to record the incorporation of the Pelican and the British Empire Life offices with the Phœnix Co. It may here be noted that the columns and pilasters have had to be finished temporarily in plaster, as the large monolith marble blocks which at the outbreak of the War were being worked near Mons, in Belgium, are not accessible for the present.

Around the octagon at first-floor level are arranged the Accident and Actuarial Departments, while a corridor leads off to the left, past the rooms of certain administrative chiefs of departments, to that of the general manager, Sir Gerald Hemmington Ryan, whose room has a large three-light bow window looking towards the Bank of England. On the second floor the chief feature is the suite of rooms

for the use of the directors, the suite consisting of board-room, chairman's room, library, and directors' luncheon-room. The three first-named communicate by large sliding doors, which enable the rooms to be thrown into one when required. The treatment of all is similar, the walls being panelled in Cuba mahogany, and the ceilings being embellished with modelled plasterwork of Georgian character. On the second floor also are the committee-room and the Registrar's Department, the former having a show-case containing a most interesting series of relics, for the most part of Roman date, found during the excavation of the site. On the third floor are the Foreign Fire and Accounts Departments; on the fourth floor the Country Fire and Guarantee Departments and the lady typists' quarters; and on the fifth floor the Surveyor's Department, managers' luncheon-room, and kitchen premises, with electric cooking-plant and a lift which communicates with a service-room adjoining the directors' luncheon-room; on this floor also are the lavatories, conveniently placed at the top of the building.

Particular attention has been paid to the lighting. The adoption of steel-frame construction enabled large window spaces to be provided, and there can be few, if any, better lighted business premises in the City. Artificial lighting throughout is by means of semi-indirect ceiling fittings, the use of desk standards and fixtures being entirely dispensed with. The general effect of the lighting is very soft and restful—a matter of great importance in an office building.

The general contractors were Messrs. George Trollope and Sons and Colls and Sons. The constructional steelwork was supplied and erected by Messrs. Homan and Rodgers, of London, who also carried out the fire-resisting floors. Messrs. Burke and Co., of London, executed the marble work and the mosaic floors; Messrs. H. W. Cashmore and Co. the lift enclosure, stair balustrading, and bronze name-plates at the main entrance. The lifts were installed by Messrs. Waygood-Otis, Ltd.; the ventilation was carried out by Messrs. Strode and Co.; and the heating apparatus and hot-water supply by Messrs. James Slater and Co., Ltd. Glazed bricks were supplied by the Leeds Fireclay Co., Ltd.; metal windows by the Crittall Manufacturing Co., Ltd.; balconettes and stallboard grilles by Messrs. H. H. Martyn and Co., Ltd.; electric-light fittings by Messrs. Verity's, Ltd.; grates by Messrs. Thomas Elsley, Ltd., and Shuffrey and Co.: glazed domes and fire-resisting glazing by the British Luxfer Prism Syndicate, Ltd.; strong-room doors, etc., by Messrs. Milner's Safe Co., Ltd., and Chubb and Sons; and sanitary fittings by Messrs. Dent and Hellyer, Ltd. Artesian wells on the site were sunk by Messrs. Alfred Williams and Co.; and Mr. C. H. Mabey executed the stone-carving and the bronze copies of the "Phœnix."



Photo: Bedford Lemere & Co.

PHŒNIX ASSURANCE BUILDING, KING WILLIAM STREET, LONDON, E.C.: UPPER PART OF GENERAL OFFICE.

THE LATE J. MACVICAR ANDERSON AND H. L. ANDERSON, ARCHITECTS.

NEWS ITEMS.

Workmen and House Purchase.

No applications for loans to enable workmen to purchase their own houses have been received by the L.C.C. this year.

Change of Address.

Mr. Delissa Joseph, F.R.I.B.A., has moved to new offices at 38, Coleman Street, Bank, E.C., his former offices at 73, Basinghall Street, having been requisitioned by the Board of Trade.

Architectural Association of Ireland.

At the meeting of the Architectural Association of Ireland, held on December 14, Mr. J. White delivered a very interesting lecture on a tour in Spain in the autumn of 1913, the lecture being illustrated by numerous lantern slides of Spanish architecture, including, particularly, the Moorish buildings in Seville and Granada.

"The Crown Journal."

We have received the first issue of "The Crown Journal," dated December, 1916. It is published by the well-known firm of building contractors, Messrs. Higgs and Hill, Ltd., of Crown Works, Lambeth, and presents a very interesting record of the national service that is being rendered by members of the staff. The firm have a Patriotic Fund for helping the dependants of those of their men who are with the Forces, and the committee's report states that close upon £1,500 has been distributed in allowances during the past year, this sum being provided by regular weekly contributions from men in the firm's employ. It is a splendid piece of practical patriotism, of which all must be proud. Messrs. Higgs and Hill's "Roll of Honour" includes 242 names.

Building at Coventry.

The General Works Committee of Coventry City Council have approved plans as follows: Five houses and seven houses (amended), St. Andrew's Road, for Mr. T. F. Bird; car wash and new service department (amended), chimney stack and boiler house, Parkside, for the Siddeley-Deasy Motor Car Co., Ltd.; erecting shop (amended), Parkside, for the Siddeley-Deasy Motor Car Co., Ltd.; covered loading dock, Radford Works, Daimler Road, for the Daimler Co., Ltd.; workshop, Radford Works, Daimler Road, for the Daimler Co., Ltd.; extension of girls' rest room, etc., Parkside, for the Siddeley-Deasy Motor Car Co., Ltd.; one house with shop, Holbrook Lane, for Mr. S. Taylor; lavatory extension, Warwick Street, for W. Tarlow, Ltd.; store shed and office, the Butts, for the Coventry Waste Paper Co.

Munition Villages.

The housing needs of the munition workers employed in new factories or converted factories are being met in a variety of ways. Where house-famine already existed and there is a good prospect of permanent industrial activity workers' cottages have been put up in large numbers. In some cases the building has been undertaken by Public Utility Societies, in some by individual firms, loans for the purpose being made by the State, usually at 5 per cent. There are instances where the need is only temporary, but where it has been necessary to build whole villages, with churches, schools, and shops. In these cases wood and concrete have been used. For women munition workers hostels, each usually accommodating about thirty girls, are provided where the numbers are very great, groups of hostels, each with sleeping accommodation for from 100 to 130 girls, have been erected. In these cases the dining and recreation rooms that serve the colony are usually in separate buildings, and an administrative block, to which the dispensary and sick rooms are attached, is provided.

New Waterworks at Watford.

Although so many municipal improvements have been held up because of the war, the construction of a new waterworks at Watford has been an absolute necessity. The reservoir has a capacity of 2,000,000 gallons, and has been built on modern principles. The softening tank is of reinforced concrete rendered with Pudlced cement, and is above ground. The whole of the work has been pronounced successful, and the water supply of the town has been greatly improved.

GREAT INDUSTRIAL BUILDINGS FOR SOUTH WALES.

Great commercial developments are taking place in South Wales. For some time past inquiries have been made throughout the district with the object of securing a suitable site for the establishment of a large works connected with the metal industry. It is understood that those interested in the scheme have visited practically the whole of the sea coast between Swansea and Newport, if not further east, and that a position has ultimately been decided upon between Cardiff and Newport. The exact locality of the works has not yet been definitely fixed, owing to the necessity of proving the foundations, but a large tract of land has been secured, which will provide ample accommodation for the establishment of a huge concern, giving employment to many thousands of people. Incidentally, other trades will also benefit, such as the building industry.

It is further stated that the project of Messrs. Whitehead, of Tredegar, for building steelworks on a site at Mendelgief, near the Alexandra Docks at Newport, which was hung up when war broke out, is now revived, and will soon be taken up at the point at which it was left off, viz., preparations for the foundations. It will be a works of considerable size to start with, and there will be developments later, and especially after the war.

In addition, one of the biggest industrial concerns which South Wales has seen has been projected, and will shortly be begun not far from Marshfield—rather nearer Newport than Cardiff. Hundreds of acres of land on Lord Tredegar's estate have been taken as a site. The number of hands which will be employed will be something like 25,000, who will, until other housing has been established, be distributed between Cardiff and Newport.

The Press Association states: It is understood that one of the North of England iron trade concerns has acquired rights over the East Moors, Cardiff, with a view to the construction of extensive works. The land comprises between 1,000 and 1,500 acres, and the works in contemplation would employ about 10,000 hands in several branches of the iron and steel industry.

The Anglo-Persian Oil Co. have acquired some hundreds of acres belonging to Llanwern and Cwrtybettws Farms, near Skewen, the property of Lord Dynevor, with the intention of erecting extensive oil works, which will form an important development for the district. The surveyor of the company has been in residence at Skewen for about eighteen months, and were it not for the war operations of erection would have been more advanced. It is probable that a very large number of houses will be erected in the parish of Coedffranc.

NEW CINEMA AT BELFAST.

A new cinema which has just been opened in Arthur Square, and is to be known as the New Royal Cinema, stands on the site of the old Theatre Royal. It provides accommodation for more than a thousand persons — namely, about 350 in the circle or balcony, and the remainder in the stalls. The main elevation is in white glazed Carrara ware, and the returned front to Castle Lane is in red brick, relieved by white Carrara dressing. On the corner is an ornamental tower which attains a height of 70 ft.; inside this there will be a 5,000 c.p. electric lamp, which, when the war is over, will throw its light around the centre of the city. Along the whole of the main front there is a handsome wrought-iron and glass verandah, the glazing being executed in coloured glass. The principal entrance is at the corner of Arthur Square and Castle Lane, and is a circular hall with marble mosaic flooring, the walls being panelled in mahogany, while there is a decorated plaster ceiling. In this hall there are two booking offices, one of which will serve the cinema, while the other will be open daily as a central booking office in connection with the Grand Opera House. At the back of the stalls there is a large tea room, with panelled walls and a decorated ceiling. The circle is approached from the entrance hall by a spacious staircase with marble mosaic steps. Situate midway between the entrance hall and the circle is a tea-room, 55 ft. long and 16 ft. wide, with a lounge adjoining, 18 ft. square. These also have decorated ceilings and panelled walls. The tea room and lounge will be open to the public without entering the theatre. On this level also are the ladies' and gentlemen's retiring rooms. The internal decorations are in a severe Neo-Grec style, and are in very light cream, relieved in gold. The main contract has been carried out by Messrs. H. and J. Martin, Ltd., of Belfast. Mr. Stanley Johnston, of Belfast, has been responsible for the electric lighting and ventilation. The whole building has been erected under the personal supervision of the architect who designed it, Mr. Bertie Crewe.

SURVEYORS AND MILITARY SERVICE.

To meet the cases of surveyors who are the sole, or sole remaining, heads of businesses, on which they or their families are dependent for a livelihood, and who are unable to find a substitute to carry on their business, the Council of the Surveyors' Institution have decided: (1) To set up boards, both for the London area and for provincial districts, to investigate applications for exemption from members, and to advise the tribunals thereon (members called up before tribunals are therefore advised to ask that their cases may in the first instance be referred to the board representing their district); and (2) to set up a court to deal generally with questions connected with the maintenance of the

businesses of members called to the colours, and to adjudicate upon differences which may arise between them and other surveyors who may be acting for them.

The Institution has been asked to make it known that surveyors in all branches of the profession, who have now been called up for military service, will be accepted for the 110th Training Reserve Battalion (late 22nd King's Royal Rifle Corps), from which a number of surveyors have already obtained commissions, and in which they will have the opportunity of being trained with other men of the professional classes. The battalion is stationed on Wimbledon Common. Applications should be made to the British Empire League, Norfolk House, Laurence Pountney Hill, E.C., letters being marked "Recruiting."

THE HOUSING PROBLEM.

At the housing conference at Leeds, in the debate upon the resolution urging local authorities to form housing committees, Mr. Smethurst and Mr. Aldridge pointed out that housing reformers were not committed to any particular method of providing better houses and more of them. The object was to get the houses either by private or public enterprise.

As mentioned in the report which appeared in last week's issue, an amendment moved by Mr. D. B. Foster (Leeds) favouring State aid to local authorities was accepted by the chairman, and the resolution so amended was carried unanimously.

Mr. A. W. Shelton (Nottingham) moved the following resolution: "That this Conference is of opinion that the legislation promised by the Government in 1913 and again in 1914 with regard to the amendment of the Finance Act of 1909 should be now carried in order that an admitted obstacle to the building of working-class houses may be removed and the provision of such houses stimulated at the close of the war." Mr. Shelton said that up to 1911 it was clearly shown that private enterprise provided houses in excess of the requirements of the natural growth of the population. In Leeds, Bradford, and Sheffield the total growth of the population between 1901 and 1911 was 70,835. In the same period the number of inhabited houses increased by 26,000. In 1911 there were no fewer than 18,506 houses to let, or 4,361 more than were empty in 1901. In the urban localities private enterprise had not failed before 1911. Now we were up against an unparalleled shortage, and as it was growing at the rate of 200 a day there was abundant scope for all kinds of schemes. The great cause of the falling off in the provision of houses in urban districts was the Finance Act of 1909, and as long as it remained unaltered private enterprise would be crippled.

Mr. Boot (Yorkshire Federation of Building Trades Employers) seconded the resolution.

Mr. Smethurst said the resolution was an extremely moderate one. The Government that passed the Act were committed to the alteration, and the only reason why it had not been given effect to was that circumstances had not permitted.

Several delegates asked for detailed information with regard to the portion of the Act which it was sought to have altered.

Mr. Aldridge said that generally it might be taken that the tax on unearned increment of land had proved a tax on the profit of the builder, and Mr. Lloyd George, the author of the Act, had recognised that.

The request for details was pressed, and consideration of the resolution was adjourned in order that these might be prepared.

Municipal Policy.

In a paper on "Suggested Developments in Municipal Housing Policy," the Chairman said that the Housing and Town Planning Council felt that it would be necessary for local authorities to do much more in the future than in the past, and that it was desirable that new methods should be adopted by which they might co-operate with different forms of enterprise. It was suggested that developments in a municipal housing policy might be made on the following lines: (1) By extending the powers of local authorities so as to enable them not only to acquire estates and lay them out on town-planning lines, but to lease sites on these to builders and others desirous of erecting working-class houses and also to advance the money for building such houses under well-defined conditions; (2) by giving to local authorities the power to advance money to public utility societies, as is done now by the Public Works Loan Commissioners, but with some of the restrictions now in force removed; (3) by giving to local authorities the power to form public utility societies under municipal auspices. The most hopeful method, said the chairman, would appear to be the joining of municipal enterprise with public utility societies and the buying of land in sufficiently large quantities by local authorities so as to keep down the price, and then either for the local authorities to build or to let sites on easy terms to public utility societies, co-operative societies, or to private builders. Another suggestion was that local authorities possessing housing powers should be given power to advance money on conditions to builders desirous of building houses for the working classes or to individuals desirous of getting the same built, and also to persons desirous of purchasing their own houses in cases where these were built on land owned by the municipality.

LEGAL.

Workmen's Compensation Case.

Mullinger v. Bidewell.

December 15. Court of Appeal. Before the Master of the Rolls and Lords Justices Warrington and Scrutton.

The Court dismissed an appeal by Henry Bidewell, a builder and contractor, of Wymondham, from an award in favour of Robert Mullinger, of Damgate, Wymondham, who claimed compensation under the Workmen's Compensation Acts, for injuries sustained by falling out of a trap while conveying a window frame from his employer's premises to a house two miles away.

The Master of the Rolls, in giving judgment, said the facts were not in dispute. Mullinger was a builder's man. A promise had been made by Bidewell to deliver a window frame at a house two miles away, and it was urgent that it should be taken there speedily. The window frame was a heavy thing, intended to be taken up by horse and cart, but when Mullinger came in the morning Bidewell told him that the horse and cart was otherwise engaged, and that he had better take the frame on a handcart. It proved, however, that the handcart was not available, and the man said he would try and carry it. But it was plainly not the contemplation and intention of both parties that this frame, which weighed two or three stone, should be carried two miles on a man's shoulder. The man started with the frame on his shoulders, and after he had got a considerable way towards his destination, he saw a pony cart in the road. The pony was grazing. The lad who drove it offered Mullinger a lift. The window was duly lifted into the cart. It was doubtful whether the man actually got into the cart before the accident, but it appeared that a machine which had stopped to take up water started, and the pony got a fright and started off. As a result Mullinger fell and got concussion of the brain. The question was: Did the accident arise out of and in the course of the man's employment? He thought it clearly did.

The Lords Justices concurred, and the appeal was dismissed with costs.

CHURCH ARCHITECTURE.

At the monthly lecture of the Sheffield and District Organists' and Choirmasters' Association Mr. J. R. Wigfull read a paper at the Church Institute on the kindred art of "Ecclesiastical Architecture."

Mr. Wigfull prefaced his lecture with an explanation of the technical terms used in church architecture, and then, disdaining a read discourse, adopted the more intimate and elastic plan of explaining extempore the features of a large number of beautiful photographs, taken chiefly from churches in the district, which is rich in many beautiful examples of mediæval architecture. Though informal, his designs were chronological and sequential. He started with the fine examples of Saxon work to be seen at Blyth, a church dating from 1088, and analysed the styles found in that splendid edifice. Its doors and the magnificent tower were much admired. Working out the sequence of development, he next examined the mass and details of Steetley Chapel, a late Norman church richly decorated. With digressions to other churches, such as Bolsover and St. Michael's, Thorpe Salvin, and Lincoln Cathedral, which bore upon his main line of description, the lecturer next dealt exhaustively in picture and verbal notes with Worksop Priory Church, illustrating the Transitional style, changing from Romanesque to Gothic. This proved especially interesting, in view of Mr. Wigfull's quotation from an American expert, who declared that England possessed no logical development of the Gothic style; the glory of its evolution belongs to France. There was a beautiful photograph of Roche Abbey, with a full description of its scanty relics, and there were passing glimpses of Fountains Abbey and some superb Normandy Cathedrals. The stately church at Tideswell was appraised as "the best fourteenth century," and examples were also shown and elucidated from Rotherham Parish Church, Treeton, Hathersage, Dronfield (showing the splendid sedilia to be seen there), Haddon Hall Chapel, Harthill, and some East Anglian churches.

R.I.B.A. GENERAL MEETINGS, SESSION 1917.

January 8.—Business: Election of members.

February 5.—Ordinary: Announcement of the Council's nomination for the Royal Gold Medal; nomination of candidates for membership.

March 5.—Special and business: Election of Royal Gold Medallist; election of members.

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GOVERNMENT HOUSING SCHEME AT WELL HALL, ELTHAM, KENT.

GOVERNMENT HOUSING SCHEME AT WELL HALL, ELTHAM, KENT.

A FEW years ago the Well Hall Road, leading from Woolwich to Eltham, now broad, well paved and served by trams, was an almost unknown country lane crossing the eastern slope of Shooters Hill. The wayfarer, setting out from Woolwich for a quiet ramble, could find few finer prospects of town—*the* town—and country than that obtained from the summit of this slope, or air more bracing than that which sweeps across the unfenced common beyond.

At the beginning of 1915 the shallow valley between Shooters Hill and the heights of Eltham consisted for the most part of market gardens; but by the end of the same year these had made way for an ordered scheme of dwellings very pleasant to look upon, and wearing an aspect of comfortable prosperity. This scheme was the direct outcome of the War, and was initiated in order to deal with the serious scarcity of housing accommodation in the neighbourhood of Woolwich resulting from the vastly increased staff of employees at the Arsenal. Although the whole of the work of covering an area of ninety-six acres with permanent houses occupied less than a year from start to finish, the houses present an aspect of durability sometimes lacking in schemes of a similar nature. Moreover, there is no suggestion of hurried or scamped labour anywhere; and the materials indicate the utmost care in selection to the smallest detail.

The provision of houses in the neighbourhood of Woolwich being a military requirement, speed in their erection was of paramount importance; it was indeed one of the most stringent conditions upon which the scheme was launched. The work of setting out the roads, sewers, and houses was commenced on February 3, 1915, and on December 11 of the same year all the roads and houses were finished and the latter handed over to the L.C.C. Estate Office.

Lay-out of Site.

The site is intersected by the Well Hall Road, from which no corner is distant more than 400 yds. This fact, together with its proximity to Well Hall Station, which is situated 300 yds. from the southernmost corner, were the main factors governing the choice, the railway being essential for the transport of the vast quantities of material employed on the works. Sixty-six acres on the east side of the road and thirty acres on the west side were purchased. The land had a soft and spongy surface, which added vastly to the preliminary work; moreover, it was intersected by ditches; but this latter disadvantage was turned to good account, for these ditches were dammed up and served as a water supply for the work at the outset, no other service being then available.

In judging the lay-out of the scheme under review it must be borne in mind that it differs from most other "garden cities" inasmuch as it has no focus such as a church, hall, or schools from which roads would naturally tend to radiate; and whilst strictly a suburb of Woolwich, it is simply a collection of houses erected for a specific purpose and allowing of no accessories. Moreover, the question of speed rendered it incumbent on the architect (H.M. Office of Works) to save so far as possible the additional expense which would have resulted from much excavation; and, as a consequence, the roads have been laid to follow wherever possible the natural contours of the ground. This condition has been turned to good account, and some very pleasing curves and sweeps, which contribute materially to the display of the houses, have resulted; the high pavement which is a feature of Ross Way (see Plate IV.) evincing a similar adaptability to existing conditions on the part of the architect. The open spaces are of considerable area, and a liberal allowance of garden space has been allotted to each house, the average area being 1,100 ft. super. All the roads, which are readily accessible to the Well Hall Road, are gravelled, which gives a bright and sunny effect even on a wet day. The pathways are likewise gravelled, the more frequented ones being laid with staggered concrete paving slabs down the centre. The granite gutters, edged by granite setts on the one hand and the pathway kerb of the same material on the other, are quite effective; and the lettering of the cast-iron name-plates has been well chosen. The roads, of which there are 3.64 miles, are 40 ft. and 30 ft. wide, according to the amount of traffic passing over them. In this connection it may be mentioned that there are 4.85 miles of sewers, which figure includes a 15-in. sewer 660 ft. long; this passes under the tram line in Well Hall Road, and reaches a maximum depth of 30 ft.

The names of the roads for the most part recall personages who have been connected with the Arsenal and town of Woolwich, and other local worthies.

Open spaces for recreation have been provided on both sides of the Well Hall Road. On the east side Lovelace Green is the chief, readily accessible from all roads. There are several minor open spaces on this side, as will be seen by referring to the site plan. On the west side the most considerable open space is Sandby Green. The retention of the trees and hedge in Franklin Passage is a happy expedient; and while referring to this it may be stated that no trees were felled during the operations of laying-out the site, a most praiseworthy practice which should never be lost sight of in suburban planning.

Types of Houses.

The total number of houses or flats provided is 1,298, the number of the latter being 212; thus provision has been made for a population of about 6,490. Blocks comprising three or more houses have not been planned in straight lines, but are so grouped as to obtain the maximum of light and air in the rooms, which arrangement also results in the avoidance of that bane of most suburban areas—monotony. Blocks vary from two to fifteen houses apiece, with one street of fifteen houses.

The houses are divided into four classes. Those in Class I. (shown black on the accompanying site plans) each contain a living room, parlour, spare bedroom, or dining room, and scullery on the ground floor, and three bedrooms, a bath-room (with hot

and cold water laid on), and the usual offices on the first floor. In Class II. (shown dotted on the site plans) the spare bedroom, or dining-room, on the ground floor is omitted. In Class III. (shown hatched on the site plans) each house contains a living room and scullery on the ground floor, and three bedrooms with usual offices on the first floor, the bath being transferred to the scullery. The self-contained flats are known as Class IV. (shown cross-hatched on the site plans), and are arranged in two-storey houses with gardens which can be split up between the various occupants. These flats each consist of a living room, scullery, with bath, two bedrooms and the usual offices.

The houses in the crescent facing Well Hall Road near the station (see Plates I.-III.) all belong to Class I., excepting the middle house, No. 116, which falls into the category of Class II. Taking the first of this group as an example, the dimensions of the rooms are as follows: On the ground floor, sitting room, 14 ft. 3 in. by 11 ft. 3 in.; parlour, 12 ft. by 9 ft.; spare bedroom, or dining-room, 12 ft. by 7 ft. 9 in.; scullery, 10 ft. by 5 ft. 6 in. On the first floor the bedrooms are 14 ft. 3 in. by 10 ft. 6 in., 12 ft. by 9 ft. 2 in., and 12 ft. by 7 ft. 9 in. respectively, and the bath-room 6 ft. 4 in. by 4 ft. 9 in. The frontage is 31 ft., the garden is 54 ft. by 30 ft., and the inclusive rental is 16s. a week. The dimensions of the rooms in No. 116 in the same group are: On the ground floor, sitting room, 17 ft. by 11 ft.; parlour, 11 ft. 3 in. by 10 ft.; scullery, 10 ft. by 5 ft. 6 in. On the first floor the bedrooms are 17 ft. 4 in. by 10 ft., 11 ft. by 9 ft., and 11 ft. by 8 ft. respectively, and the bath-room 5 ft. 9 in. by 5 ft. 6 in. The frontage is 27 ft. 3in.; the garden, 75 ft. by 38 ft.; and the inclusive rental is 13s. a week.

The pair of cottages, Nos. 22 and 24, Lovelace Green (shown on Plate XIII.), belong to Class III. The dimensions are: On the ground floor, living room, 16 ft. 6 in. by 10 ft. 7 in., and scullery with bath, 10 ft. 6 in. by 6 ft. 6 in. On the first floor, the bedrooms measure 12 ft. 10 in. by 9 ft. 1 in., 12 ft. 3 in. by 7 ft 9 in., and 9 ft. 6 in. by 7 ft. respectively. The frontage is 21 ft. 9 in. The garden of No. 22 is 55 ft. by 46 ft., and that of No. 24 is 50 ft. by 32 ft. The inclusive rental of each is 11s. a week.

The self-contained flats are situated in Granby Road, the furthest removed from Well Hall Road. The dimensions of the ground-floor flat, No. 65 (see Plate XVI.) are: Living room 13 ft. 6 in. by 12 ft. 6 in.; bedrooms, 11 ft. by 9 ft. 9 in., and 11 ft. by 8 ft. 6 in.; and scullery (with bath) 14 ft. by 5 ft. 9 in. The dimensions of the first-floor flat, No. 65a, are: Living-room, 14 ft. 9 in. by 12 ft. 6 in.; both bedrooms 11 ft. by 9 ft. 9 in.; and scullery (with bath), 13 ft. by 5 ft. 9 in. They have a frontage of 33 feet, and the garden is 62 ft. by 46 ft. The inclusive rental of the first-floor flat is 7s. 6d. a week, of the ground-floor flat, 7s.

The first house on the estate was let on May 22, 1915, and on December 31 of the same year only fifty of the 1,298 houses remained unoccupied.

Materials.

A study of the materials and the method of using them is extemely interesting. To provide these in sufficient quantities for so great an enterprise at short notice would in many cases have proved a serious handicap to rapid progress had not the architect hit upon the happy expedient of obtaining them from as many sources as practicable, whereby not only was a prompt and steady delivery obtained, but that variety which is so notable a feature of the scheme was realised. When it is stated that the building material and plant delivered by rail and road reached the gigantic total of 252,327 tons, it will be readily understood how essential was such an arrangement.

The bricks used for backings were Flettons; but the facings came from so many brickfields that each cannot be individually named in this article. They were carefully selected on the job in order to produce the very pleasing combinations which we see. The same remarks apply to the tiles. Although the colour and tone of these varies from dark brown to light red, and dark blue to light grey, no violent contrasts offend the eye. In addition, some old tiles have been introduced. The majority of the slates were obtained from the Carnarvon district. "Greenarvon," Welsh Green "rustic randoms," used by themselves and in conjunction with "Vaingaled," and Abergynolwyn Welsh greys have given some very satisfactory results. "Old Delabole," of the rough-faced stout grey-green variety, are also pleasing.

The timber used for the half-timber work is for the most part, pitch-pine treated with "Solignum," and some oak has been used in weather-boarding. The scantlings were standardised and the houses planned accordingly in order to facilitate expedition. Window and door frames have for the most part been painted white, the doors "invisible" green, though some are stained according to their surroundings. Ironwork is uniformly black. The treatment of the rough-cast, both as regards surface and colour, will repay careful study: most of it has been applied in one coat. The oak fencing, of which there is 27½ miles on the estate, is also an interesting study in variety.

Here may be added some detailed particulars of materials used in groups of houses shown among the accompanying illustrations as representative examples:

Crescent of Houses, Well Hall Road.

(PLATES I.-III.)

The ground floor is of red brick with rather dark pointing; the screens connecting the three blocks being of brighter bricks with lighter pointing. The first floor and gables are tile-hung, and the roofs are covered with dark tiles. The door-frames and leaded casements are painted white, the doors dark green, and the ironwork black. Steps are of bright red brick-on-edge.

Block of Four Houses, Downman Road.

(PLATES V. AND VI.)

The ground floor is stuccoed, the first floor boarded with pitch-pine treated with "Solignum." The frames and casements are painted white, the doors stained. Semi-vitrified brick-on-edge has been used for the steps; dark red tiles cover the roof; and the chimneys are of varied bright red bricks.

Block of Seven Houses, Well Hall Road.

(PLATES V. AND VII.)

The facings are of thin richly coloured bricks with wide joints, a reticent introduction of blue bricks in the gables breaking up effectively the rather large area. The roofs are covered with "rustic random" slates in diminishing courses. The leaded casements have white frames, the doors being dark green.

Block of Four Houses, Phineas Pett Road.

(PLATES VIII. AND IX.)

The gables are in half timber and buff stucco, the ground floor between these being of the same material and the first floor hung with green Welsh slates, which also cover the roof (which has a blue

half-round ridge). The chimneys are stuccoed, with brick caps. Casements and frames are white, doors dark green.

Block of Five Houses, Sandby Green.

(PLATE XI.)

The rough-cast is brown-grey in tone, the timber treated pitch-pine, apart from a small amount of oak weather-boarding in the apex of one of the gables. The shoulders of the gables are in purple bricks, and steps are red brick-on-edge. Sussex stone quoins have been introduced at the angles of the porches. The casements are painted white and the ironwork black.

Pair of Cottages, Lovelace Green.

(PLATE XIII.)

The walls are grey rough-cast, with a red tiled roof and first floor. Chimneys and steps are of brick. Frames and casements are white, doors dark green, and ironwork black.

Flats in Granby Road.

(PLATE XVI.)

Most of the houses in this road consist of self-contained flats. It is, perhaps, the best in which to study the handling and colour of the stucco, and the varied materials used for roofing.

* * * *

The scheme was devised by His Majesty's Office of Works. Messrs. Mowlem and Company were the contractors for the roads; and they shared equally with Messrs. Leslie and Company the contract for the houses. There were thirty-six sub-contractors, the timber and fittings having been supplied direct by the Commissioners of His Majesty's Works and Public Buildings.

The maximum number of men employed at one time on the works was 5,637. Taking into consideration the scarcity of labour prevailing at the time, and the fact that men engaged on Government work consider themselves entitled to higher pay and better conditions than when engaged on ordinary contract work (the feeling in the present case having been accentuated by the large earnings of the employees at Woolwich Arsenal, where greater numbers were ever in demand), it is remarkable that no serious trouble resulted in this connection.

The foregoing gives the essential facts and figures of the scheme. The actual results obtained can best be judged by the accompanying plates, which show, we think, that H.M. Office of Works have on this Well Hall Estate carried out a large housing scheme in a brilliantly successful manner.



WEST SIDE OF SITE.



EAST SIDE OF SITE.

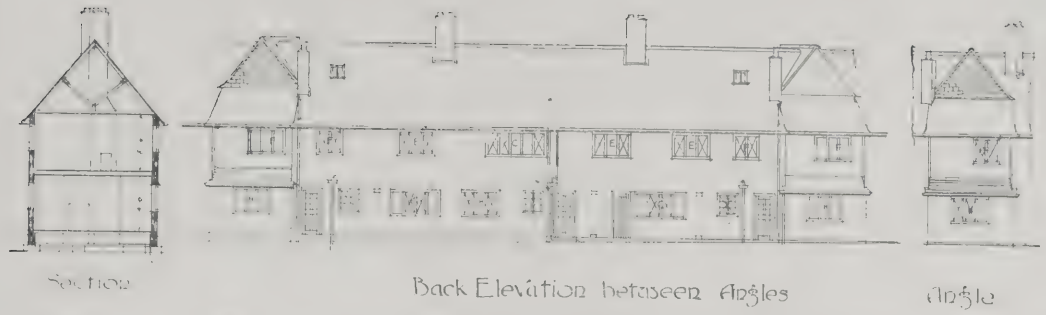
Supplement to "The Architects' and Builders' Journal," Wednesday, December 27, 1916.

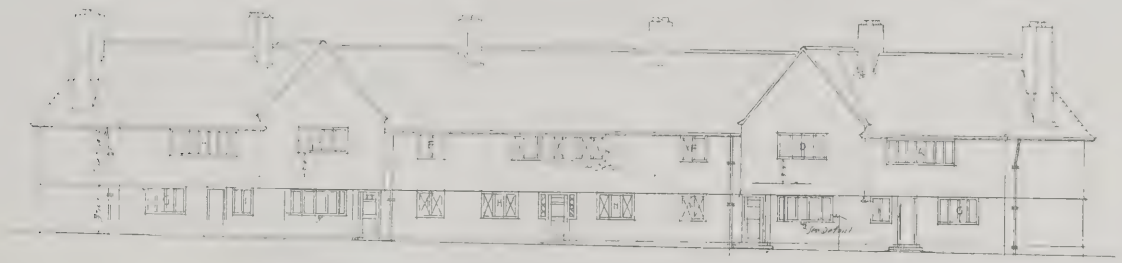


1.—CRESCENT OF HOUSES, WELL HALL ROAD.

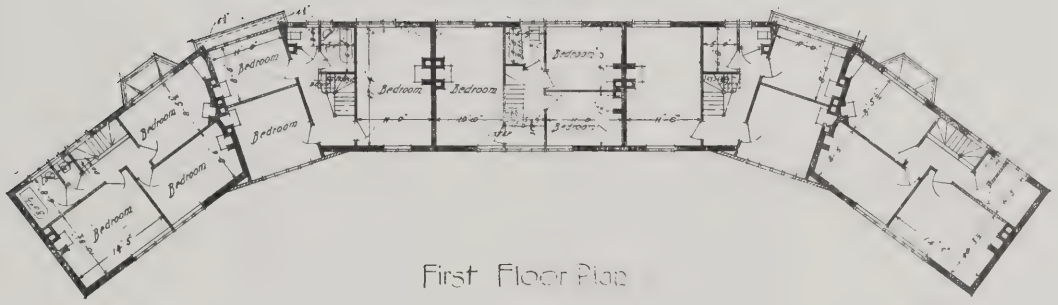
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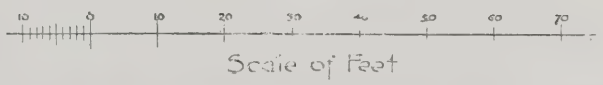


Front Elevation

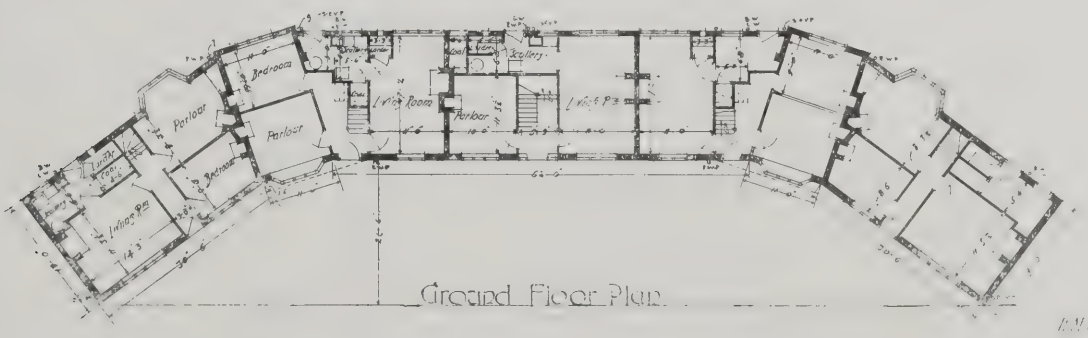


First Floor Plan

Note
External walls where not Stuccoed to be built hollow 11 thick and to have 9d in W I Ties one to every yard sup. of Brickwork



Scale of Feet



Ground Floor Plan

H.M. Office of Works

II.—HOUSES IN CRESCENT, WELL HALL ROAD.

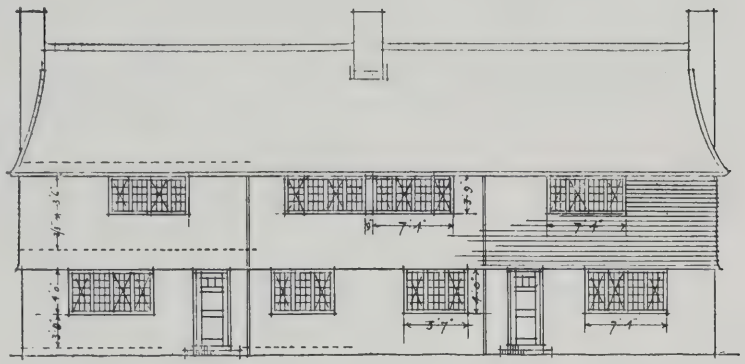
Class I. (excepting middle house—Class II.).

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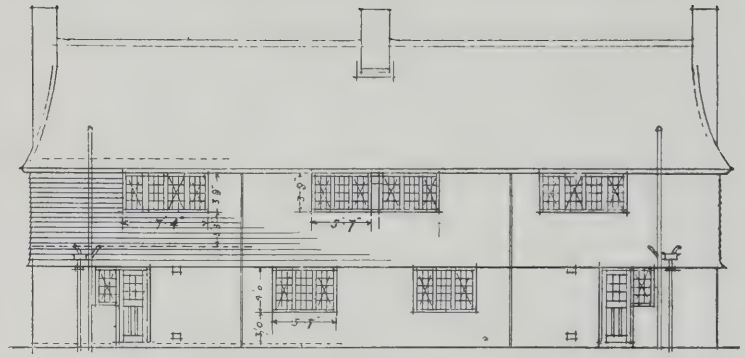
GOVERNMENT HOUSING SCHEME WOOLWICH



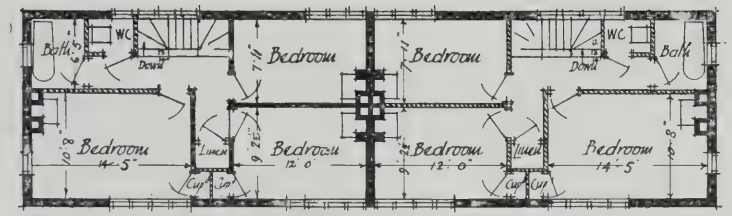
Scale of feet.



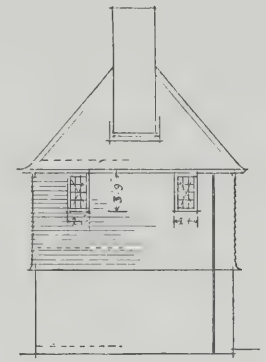
FRONT ELEVATION



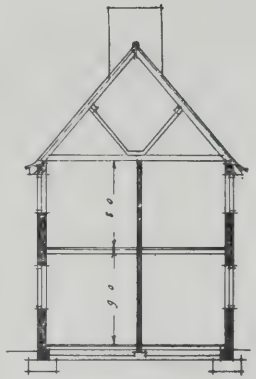
BACK ELEVATION.



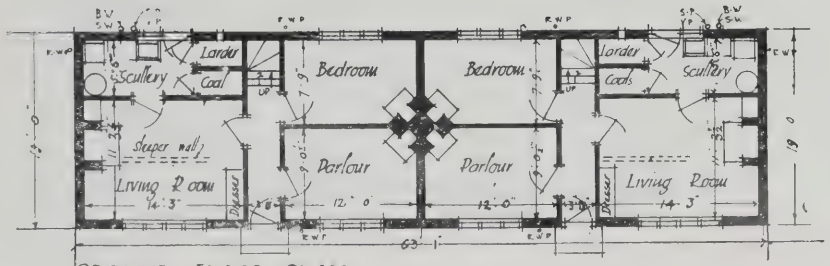
FIRST FLOOR PLAN



END ELEVATIONS



SECTION

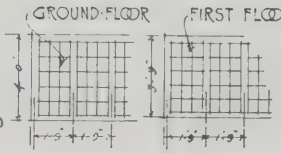


GROUND FLOOR PLAN

NOTE

SASHES SHOWN TO OPEN TO BE STEEL CASEMENTS FILLED WITH LEAD LIGHTS REMAINDER TO BE LEAD LIGHTS FIXED TO STEEL FRAMES

THE EXTERNAL 11 HOLLOW WALLS TO GROUND FLOOR TO HAVE GALVANIZED W.I. TIES ONE TO EVERY YARD SUP. OF BRICKWORK



DIVISIONS OF LEADED LIGHTS IN CASEMENTS

H.M. OFFICE OF WORKS.
LONDON S.W. March 9/15.

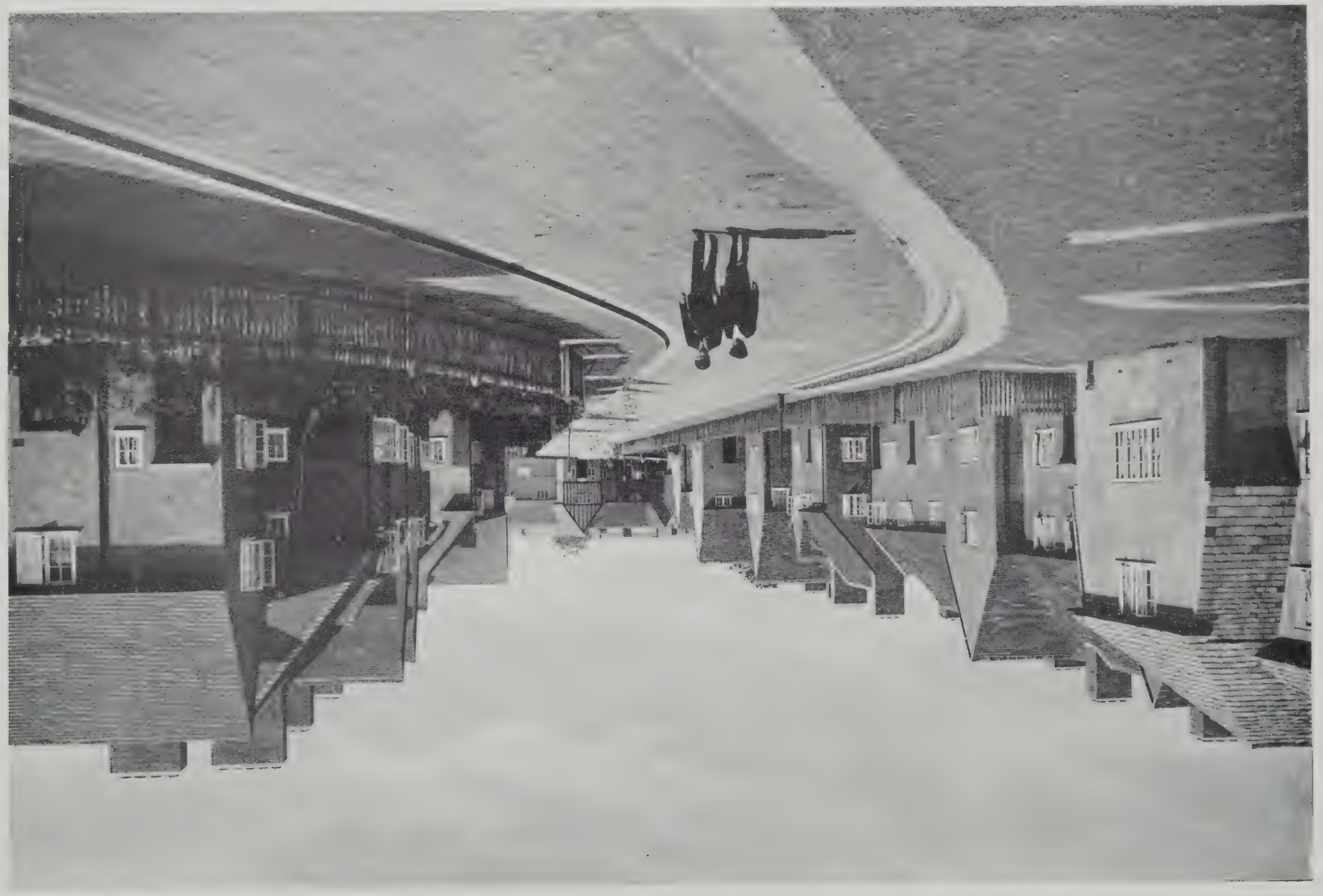
III.—HOUSES AT ENDS OF CRESCENT, WELL HALL[3] ROAD.

Class I.

Supplement to "The Architects' and Builders' Journal," Wednesday, December 27, 1916.

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IV.—ROSS WAY.



Supplement to "The Architects' and Builders' Journal," Wednesday, December 27, 1916.

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BLOCK OF FOUR HOUSES, DOWNMAN ROAD.

Classes I. and II.



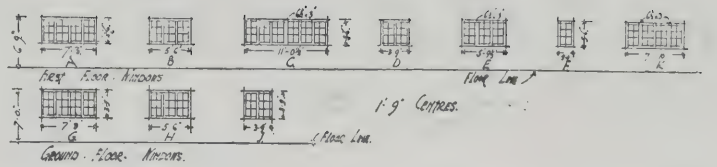
WING OF BLOCK OF SEVEN HOUSES, WELL HALL ROAD.

Classes I. and II.

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GOVERNMENT : HOUSING : SCHEME :: WOOLWICH

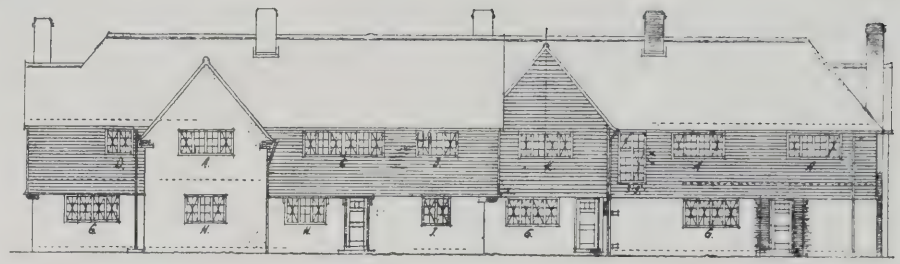
SCALE ... Feet



No 9. WEST.



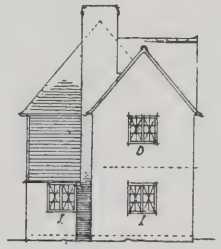
BACK : ELEVATION



FRONT : ELEVATION



SECTION : C:C



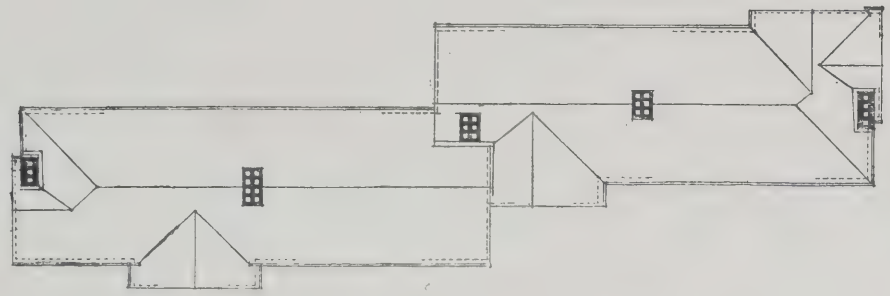
ELEVATION : B:B



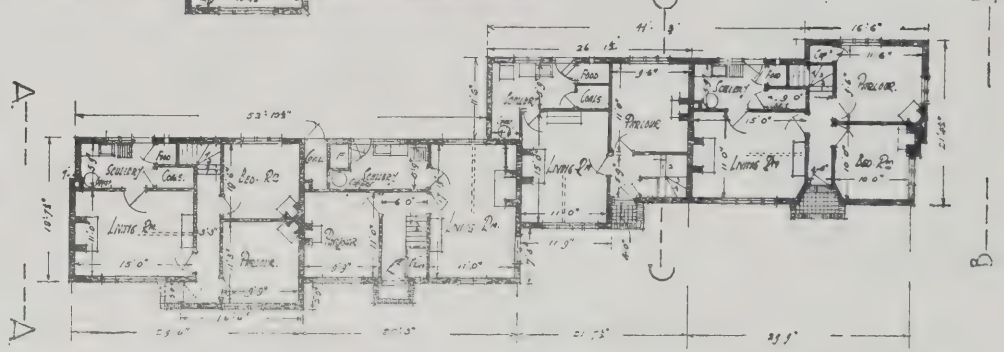
ELEVATION : A:A



FIRST : FLOOR : PLAN



ROOF : PLAN



GROUND : FLOOR : PLAN

No 29 West

H.M. Office of Works, Westminster. S.W. May 1915.

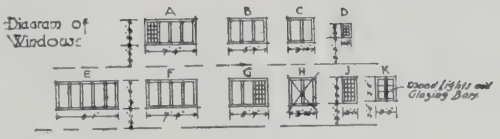
VI.—BLOCK OF FOUR HOUSES, DOWNMAN ROAD.

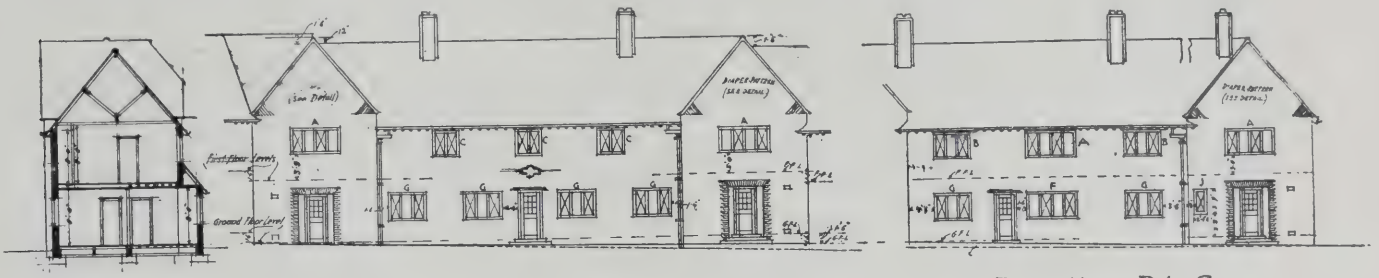
Classes I. and II.

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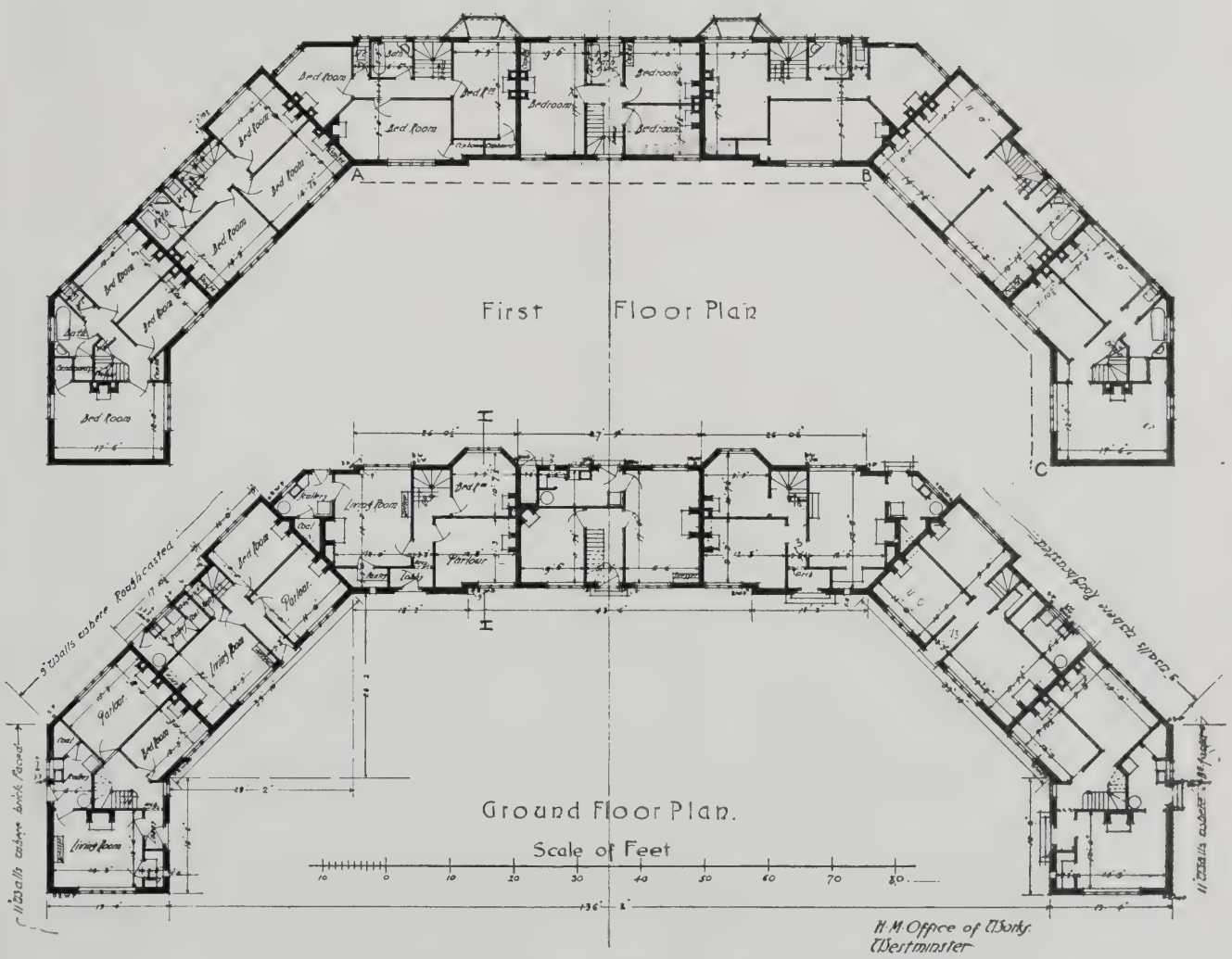
Government Housing Scheme
Woolwich.

NOTE.
All External Walls not stuccoed to be built hollows 11" thick.





Section H-H. Elevation A to B. Elevation B to C.



VII.—BLOCK OF SEVEN HOUSES, WELL HALL ROAD.

Classes I. and II.

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BLOCK OF FOUR HOUSES, PHINEAS PETT ROAD.

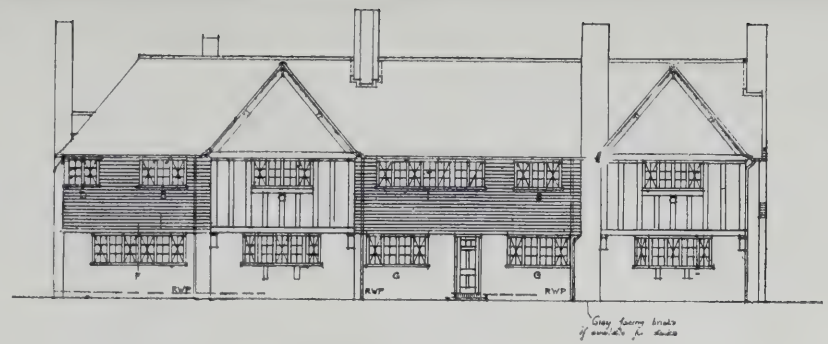
Classes II. and III.



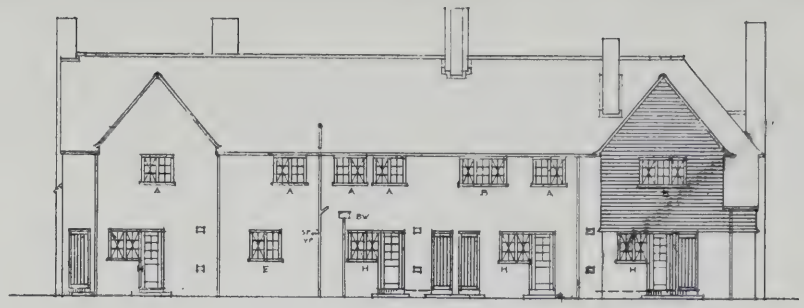
BLOCK OF HOUSES, THE CINDER PATH, WELL HALL ROAD.

Classes I. and II.

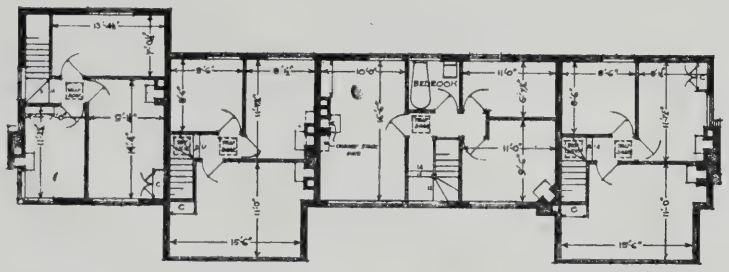
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FRONT ELEVATION



BACK ELEVATION



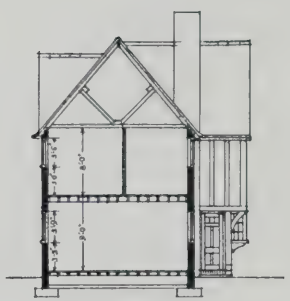
FIRST FLOOR PLAN



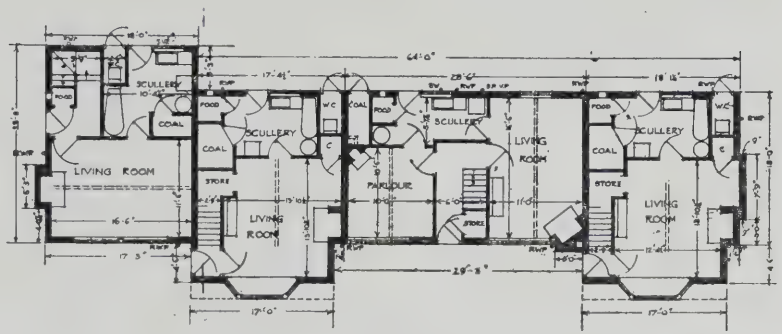
WEST ELEVATION



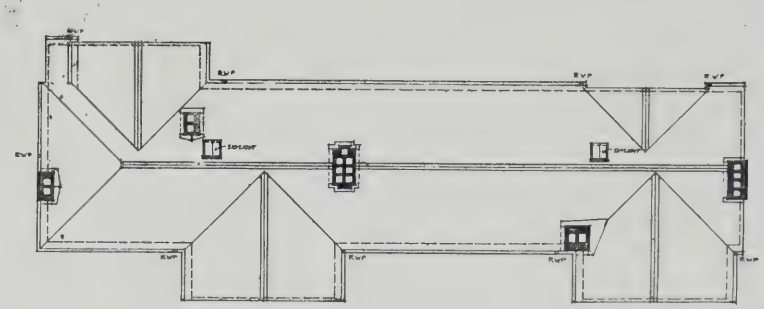
EAST ELEVATION



SECTION AA



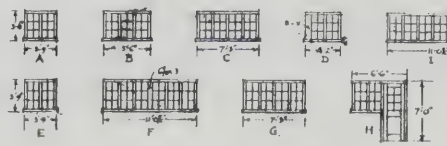
GROUND FLOOR PLAN



ROOF PLAN



WINDOW DIAGRAM



IX.—BLOCK OF FOUR HOUSES, PHINEAS PETT ROAD.

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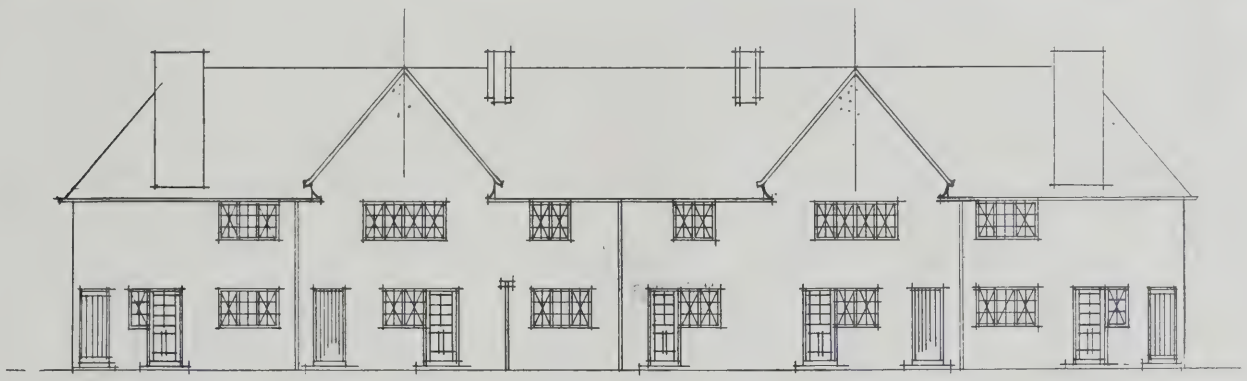


X.—SANDBY GREEN.

nt to "The Architects' and Builders' Journal," Wednesday, December 27, 1916.

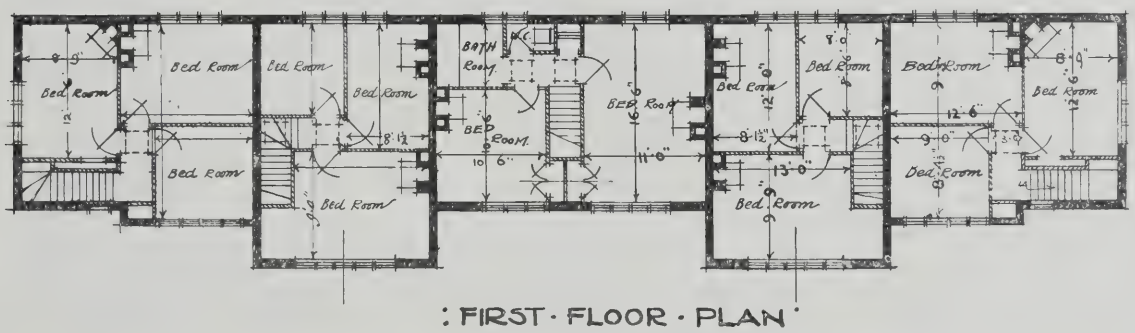
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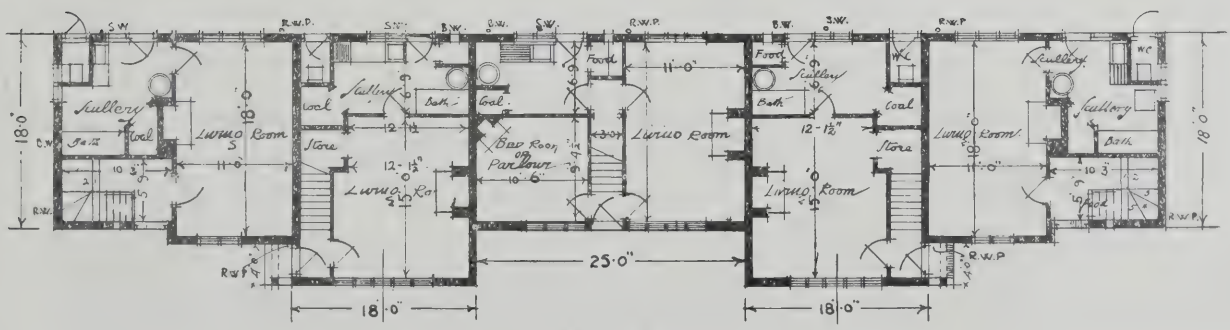


: BACK · ELEVATION :

10 5 0 10 20 30 40 ft



: FIRST · FLOOR · PLAN :



: GROUND · FLOOR · PLAN :

XI.—BLOCK OF FIVE HOUSES, SANDBY GREEN (EAST SIDE).

Class III.

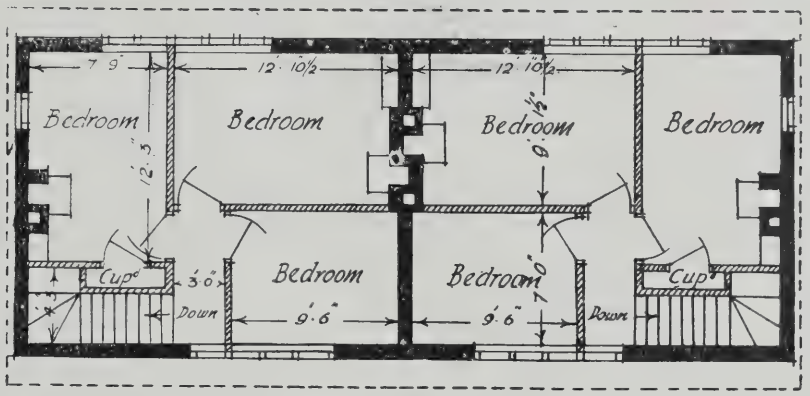
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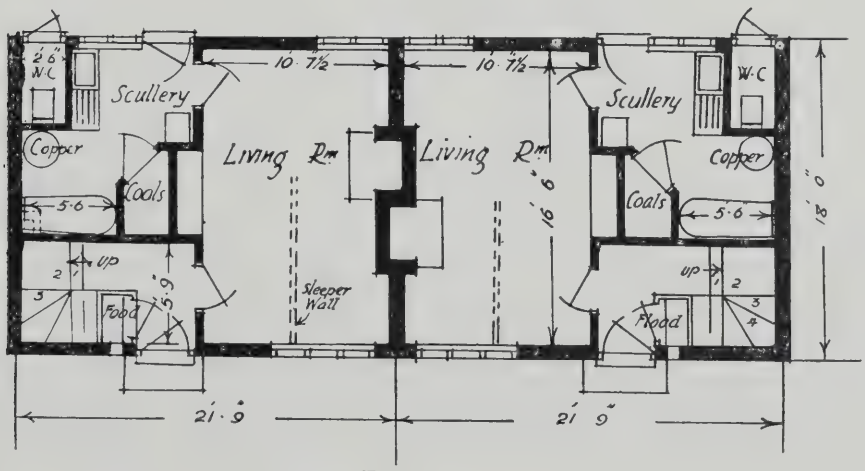
XII.—LOVELACE GREEN.

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1ST FLOOR PLAN.



GROUND FLOOR PLAN

XIII.—PAIR OF COTTAGES, LOVELACE GREEN.

Class III.

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XIV.—DICKSON ROAD.

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East Side.



West Side.

XV.—HOUSES FACING WELL HALL ROAD.

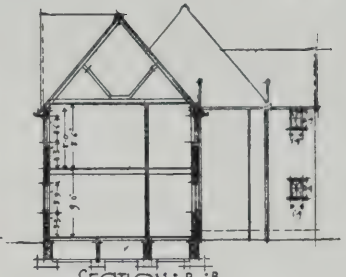
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GOVERNMENT : HOUSING : SCHEME : WOOLWICH

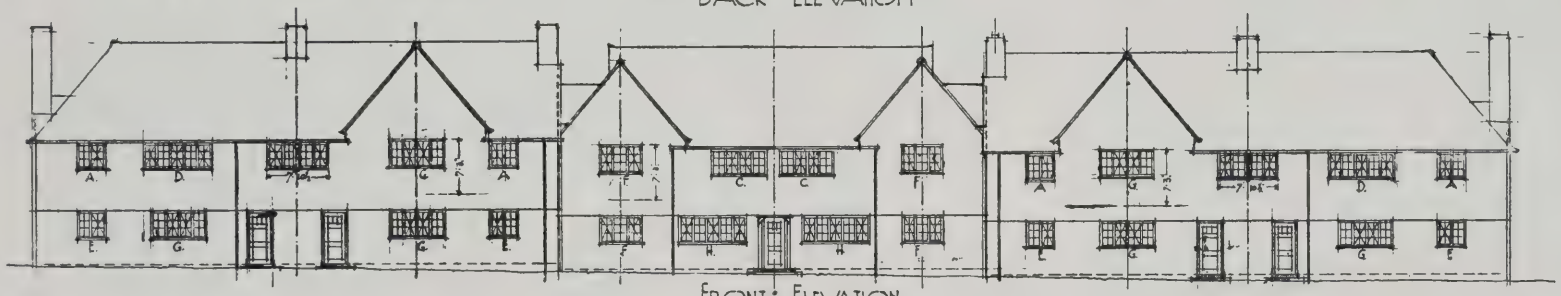
No 108.



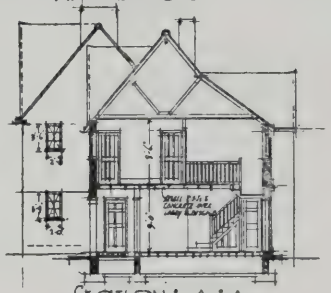
BACK : ELEVATION



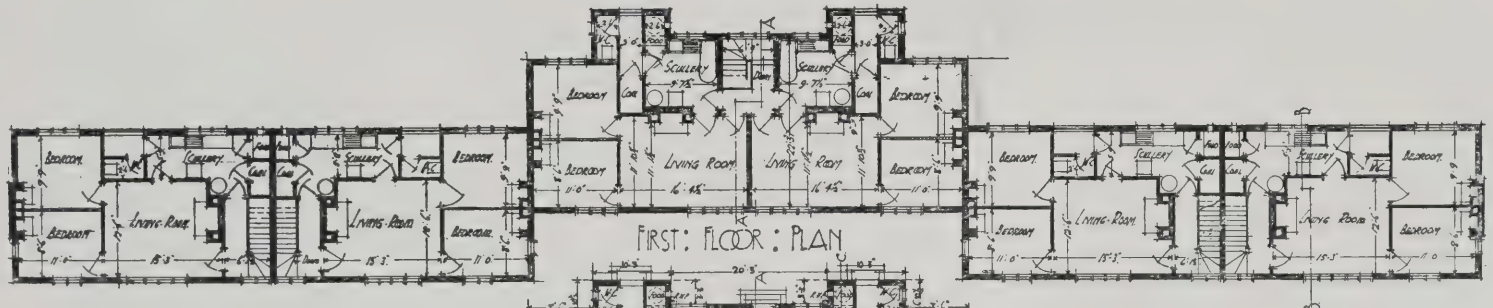
SECTION : B : B



FRONT : ELEVATION



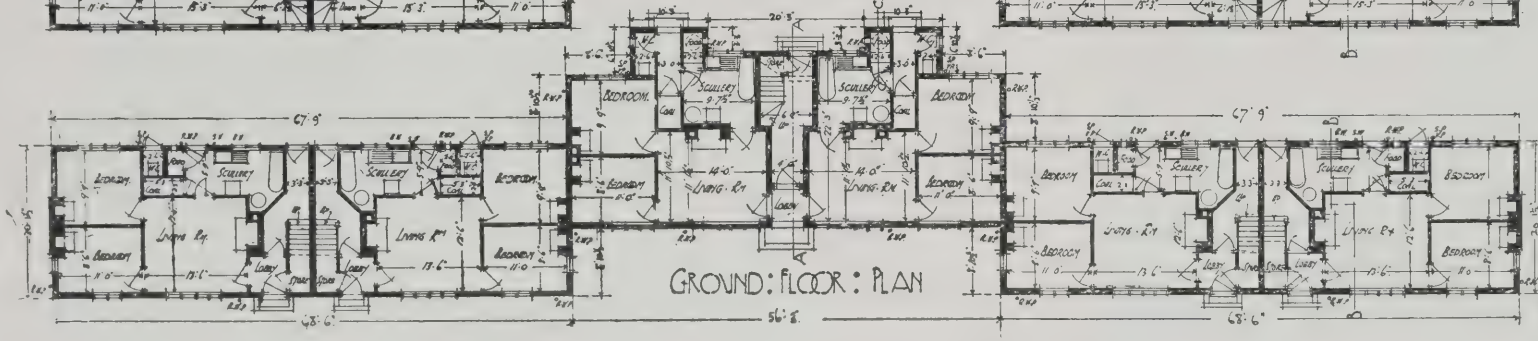
SECTION : A : A



FIRST : FLOOR : PLAN



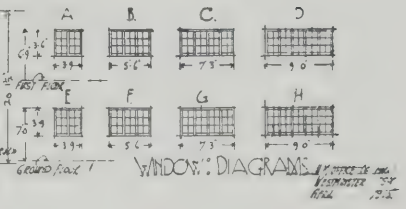
END : ELEVATION



GROUND : FLOOR : PLAN



SECTION : C : C



WINDOW : DIAGRAMS

XVI.—FLATS, GRANBY ROAD.

Class IV.

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ARSENAL ROAD.



CONGREVE ROAD AND BOUGHTON ROAD.

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NEW YEAR'S DOUBLE NUMBER.

THE ARCHITECTS' & BUILDERS' JOURNAL

A Weekly Journal for Architects Surveyors Builders and Constructional Engineers.

PRICE SIXPENCE NETT

WEDNESDAY, DECEMBER 27, 1916

27-29, Tothill St., Westminster. London. S.W.

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The Labour-Saving House.

IN all housing schemes modern conditions of labour shortage and women's employment are bringing into peculiar prominence the importance of labour-saving design, construction, and equipment.

Hygienists and social reformers maintain that the working woman, and the housewife who cannot afford much domestic help, must not be expected to run her home and bring up her children properly unless the drudgery and difficulties of her daily life are to a certain extent eliminated. Hence it is true to say that the house of the future will be the labour-saving house.

And nothing simplifies domestic work so much as gas apparatus. Clean, convenient, and cheap, the gas cooker, the gas fire, the gas water-heater, and the gas washing-copper have undoubtedly come to stay.

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The British Commercial Gas Association,
47, Victoria Street,
Westminster, S.W.

T. 111.

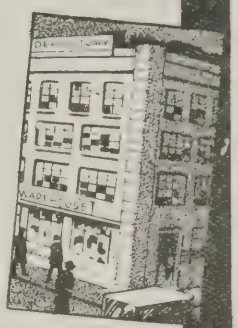
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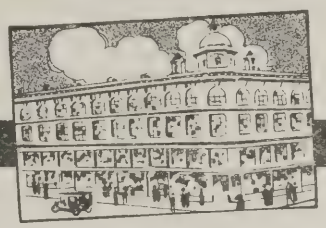


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Steel after the war.

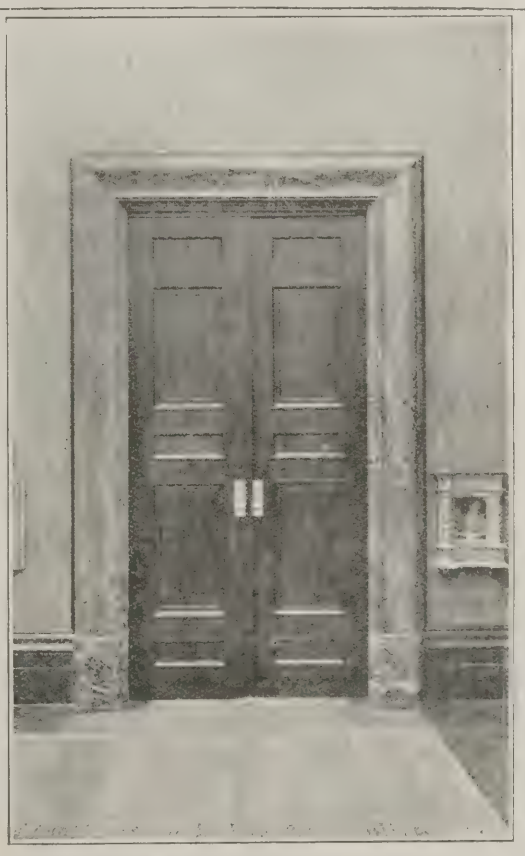
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Double-leaf Steel Door as supplied to H.M. Office of Works for National Gallery.

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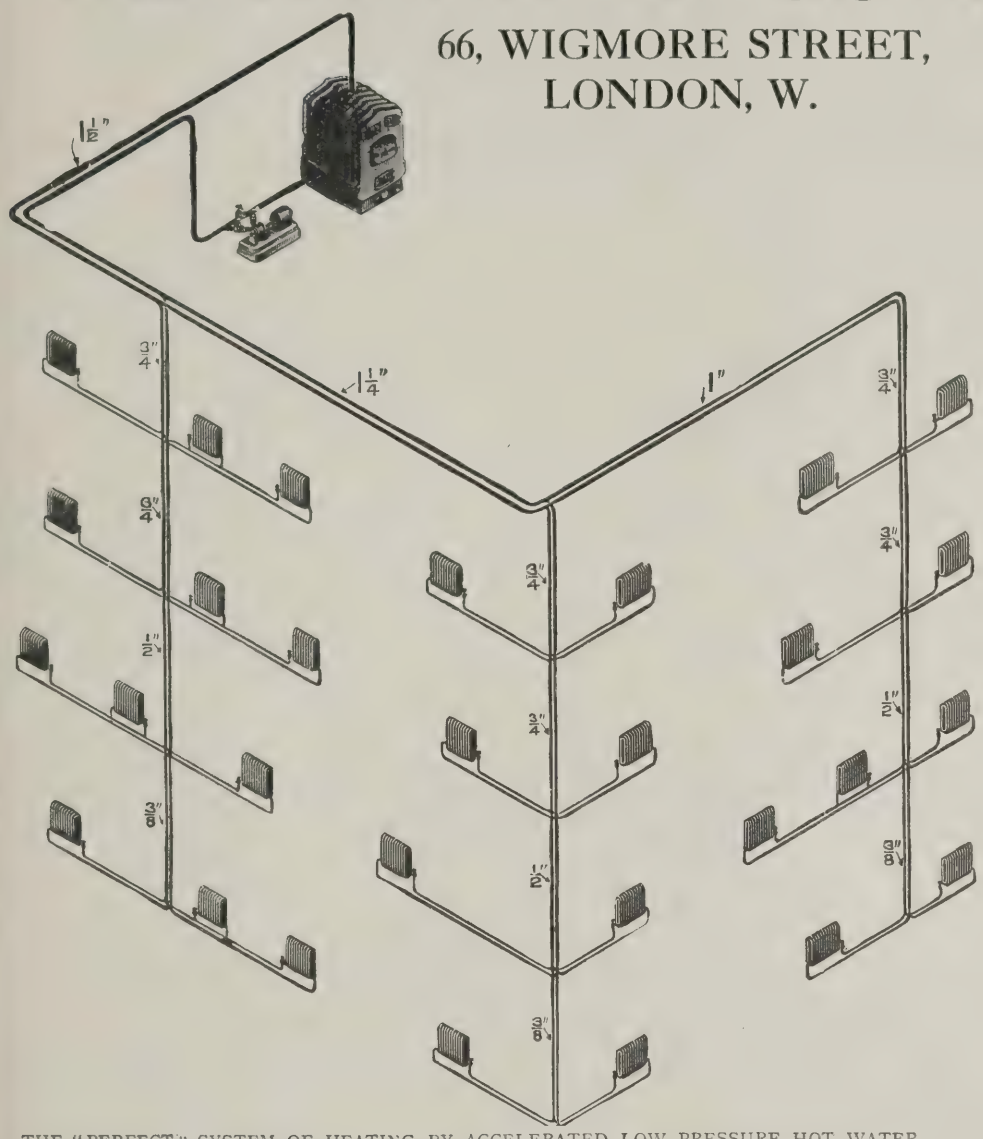


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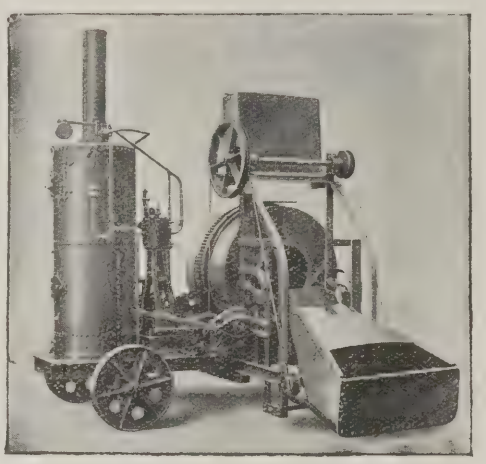
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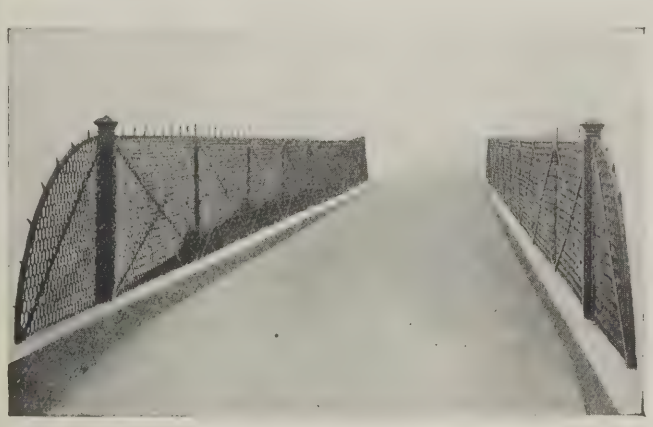


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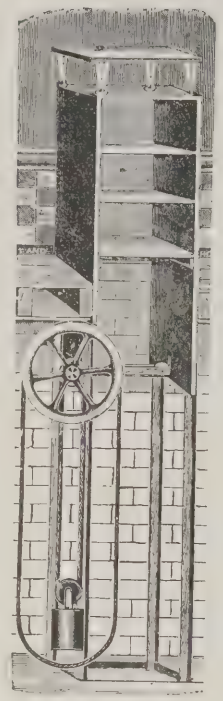
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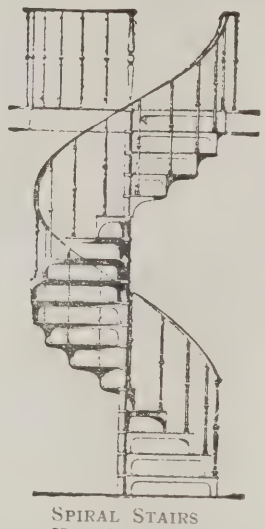
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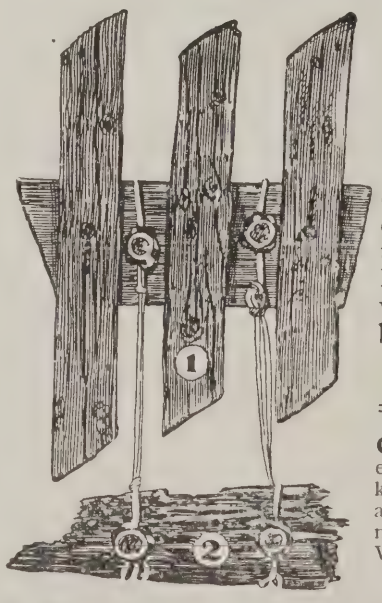
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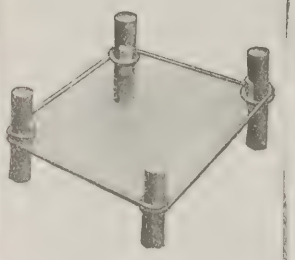
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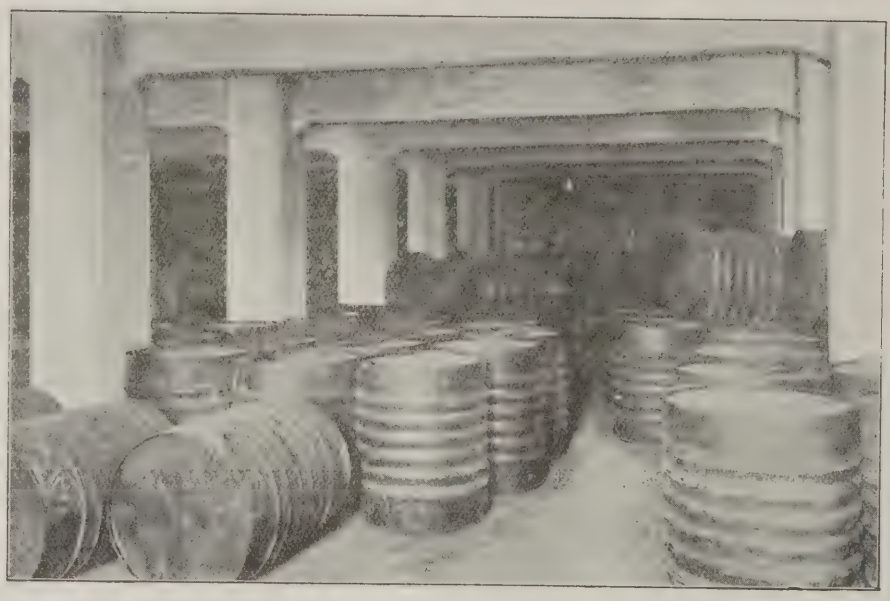
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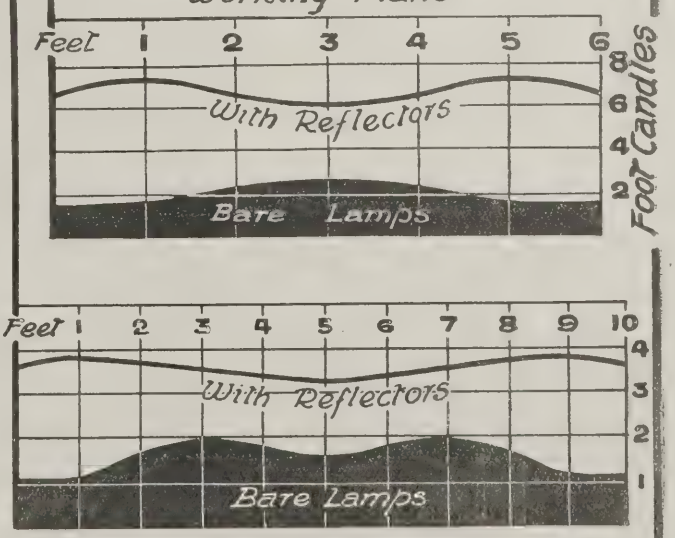
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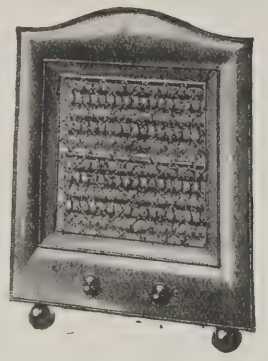
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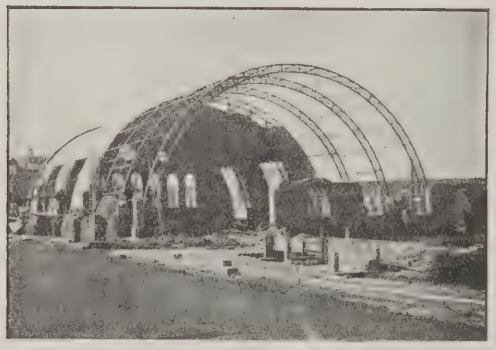
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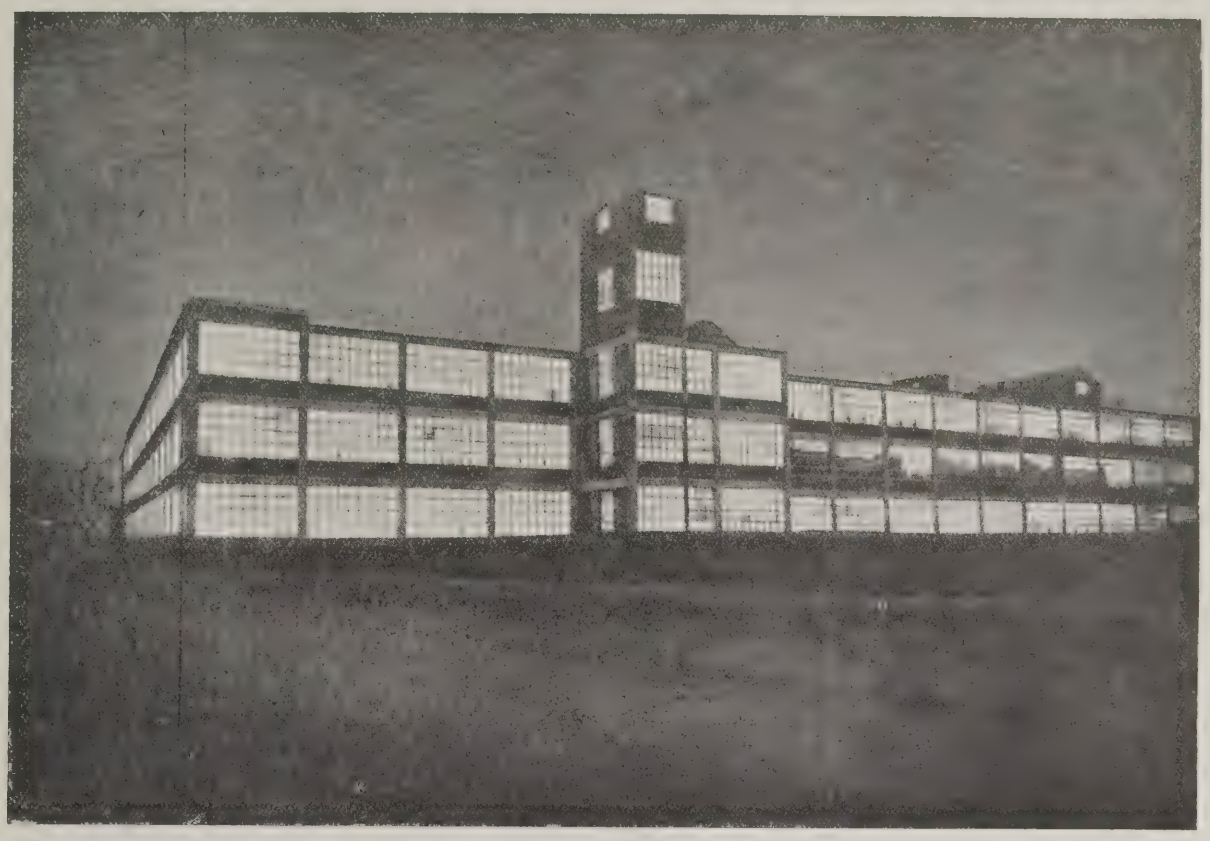
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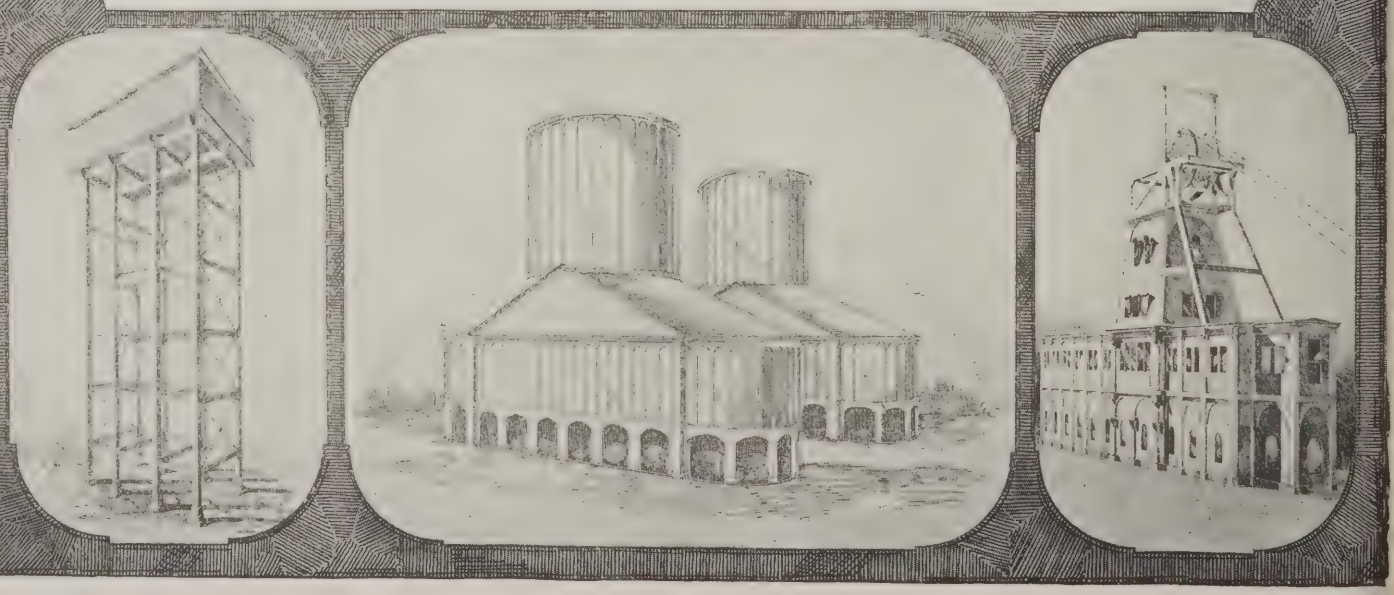
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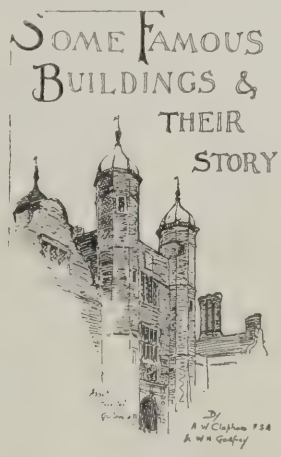


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